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AEI/OCR SYSTEM VERIFICATION

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16 Abstract

Transport Canada's Transportation Development Centre, the Montreal Port Authority, and prime systems integrator DTI Telecommunications developed a system that integrates automatic equipment identification (AEI) with optical character recognition (OCR) for the automated identification of railcars and containers. In partnership with the Institut national d'optique and the Closed Circuit Television Corporation, DTI completed the integration and carried out improvements to the system's efficiency, accuracy and stability.

This R&D project was undertaken to help the Port of Montreal improve the efficiency and productivity of container movement through the Port. The integration of AEI and OCR technologies into an information technology environment meets the Port community's requirement for timely and accurate information, and provides a basis for improving the level of service to customers.

This report describes the final testing and integration phase associated with the delivery of an AEI/OCR system. A thorough analysis of the AEI/OCR system resulted in hardware and software modification to arrive at the optimal image transfer. The AEI/OCR system prototype achieved an overall performance improvement, with 92 percent ISO container recognition accuracy and the processing and transfer of the results in an electronic data interchange file within 20 minutes.

Benefits from the real-time diffusion of container information include an increase in operation efficiency, reduction of paper records, and advance notice to accelerate the planning and decision-making processes.

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Automatic equipment identification, AEI, optical character recognition, OCR, electronic data interchange, EDI, container identification

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16 Résumé

Le Centre de développement des transports de Transports Canada, l'Administration portuaire de Montréal et l'intégrateur principal de systèmes, DTI Télécommunications (DTI), ont mis au point un système intégrant l'identification automatique d'équipement (IAE) et la reconnaissance optique de caractères (ROC), pour l'identification automatique des wagons et des conteneurs. En partenariat avec l'Institut national d'optique (INO) et la firme Closed Circuit Television Corporation (CCTC), DTI a achevé l'intégration des deux technologies et perfectionné l'efficacité, la précision et la stabilité du système ainsi développé.

Ce projet de R&D visait à appuyer l'objectif du Port de Montréal de rendre plus efficaces et plus productifs les mouvements de conteneurs dans le port. L'intégration de l'IAE et de la ROC en une technologie de l'information répond au besoin du Port de Montréal de disposer rapidement d'une information précise, et constitue un premier pas vers une amélioration du niveau de service aux clients.

Le rapport décrit la phase d'intégration ainsi que les essais finaux associés à la réalisation d'un système IAE/ROC. Grâce à une analyse exhaustive du système, les chercheurs ont pu modifier le matériel et le logiciel pour optimiser le transfert d'image. Le prototype IAE/ROC a démontré une amélioration de sa performance globale, soit une précision de 92 p. 100 de la reconnaissance des conteneurs ISO, et le transfert en moins de 20 minutes des informations dans un fichier d'échange de données informatiques (EDI).

La diffusion en temps réel des informations sur les conteneurs présente entre autres des avantages comme l'augmentation de la rentabilité de l'exploitation, la réduction du nombre de documents papier ainsi que la production à l'avance d'informations permettant d'accélérer la planification et la prise de décisions.

17 Mots clés
Identification automatique d'équipement, IAE, reconnaissance optique de caractères, ROC, échange de données informatisées, EDI, identification des conteneurs

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EXECUTIVE SUMMARY

In the intermodal industry there is a growing need for better tracking of containers in transit to improve handling and throughput, increase security, and enable the use of electronic data interchange (EDI). As radio frequency (RF) tags or electronic seals (e-seals) are not in general use in the container shipping industry, automation of the container recognition process must be achieved through the identification numbers printed on the containers. The Port of Montreal (POM) is constantly in search of ways to make the Port system more competitive and productive.

This R&D project was undertaken by Transport Canada's Transportation Development Centre (TDC) to help POM improve the efficiency and productivity of container movement through the Port. The system developed integrates automatic equipment identification (AEI) with optical character recognition (OCR) for the automated identification of railcars and containers. The integration of these two technologies into an information technology environment meets POM's requirement for timely and accurate information, and provides a basis for improving the level of service to customers. It also complements a larger program seeking to achieve fully integrated electronic date interchange (EDI) between Port stakeholders.

The performance of the AEI/OCR system was specified in terms of accuracy and processing time criteria. The minimum required accuracy was established at 80 percent. The time to process the results, including the generation of an EDI file, was to be within 20 minutes of the passage of a "reference train", which was defined as a fully loaded, double-stacked 6000 ft. train equivalent to 120 platforms, each bearing a maximum of three containers. The system was designed to ensure proper operation for train speeds varying between 10 and 20 mph.

The AEI/OCR system installed at POM was initially designed and developed by the Institut national d'optique (INO) under contract to TDC. INO first tested the prototype of the AEI/OCR system in November 2000. In August 2001 DTI was contracted to conduct a second round of tests. Following these tests, problems related to the integration of certain components within the AEI and OCR modules were identified. DTI was then selected to manage work associated with the delivery of an operational prototype, including coordination, supervision and implementation of corrective measures.

DTI was contracted by TDC to carry out the following tasks:

- Consolidate and test the equipment.
- Replace the target lights connected to the OCR software with light beams.
- Make the applications more stable.
- Obtain a better synchronization of information linked to the AEI portion of the software.
- Improve OCR software accuracy.
- Assume the role of systems integrator during this period and coordinate all activities leading to the acceptance of the system.
- Supervise coordinate, verify and obtain approval of the test plans, procedures and results analyses, and implement solutions to ensure the project's success.

DTI, with help from the Closed Circuit Television Corporation (CCTC), verified, corrected and consolidated all of the equipment to make the system fully operational. DTI analysed computer equipment with a series of tests to select the hardware and software configurations for optimal image transfer. The light beams were successfully installed to fix the target light-related problems. INO and CCTC also improved the software to enhance its efficiency, accuracy and stability.

The results of a first set of tests in November 2002 were very promising: the container code recognition accuracy for 11 trains moves reached 89.9 percent for valid containers. Some problems with the existing image acquisition cardwere encountered, however, as well as frequent stops and a downward shift of certain pixel lines. With TDC's approval, DTI and its partners implemented changes to the image acquisition system to use the Matrox Genesis-LC 3000 acquisition card.

Preliminary tests recommenced for three weeks in February 2003, during which the new acquisition card had to be tested and integrated with the AEI and OCR sub-systems. During this period INO and CCTC made additional software and hardware modifications that yielded results similar or higher to those of the previous tests. In the light of the positive results, DTI decided to begin the acceptance tests phase on 16 March 2003, for a period of two consecutive weeks.

The acceptance tests were successful and yielded a container code recognition accuracy of 91.76 percent for 12 train moves the first week and 90.8 percent for 14 train moves the second week. The overall result for the period was 91.31 percent accuracy for 3,359 valid containers and 87 percent overall accuracy for all 3,494 containers.

The changes made to the computer environment and configuration also resulted in a substantial decrease in data time transfer between the computers and a reduction of processing time. Train moves from 1,309 to 9,821 ft. were observed during the acceptance test period. The processing of the EDI file occurred in less than three minutes after the passage of the train, well under the original 20-minute limit.

All POM requirements were met as a result of the hardware and software improvements made during the project. The acceptance tests demonstrated the undeniable potential of the AEI/OCR prototype to be implemented as an operational system. DTI recommended some modifications to correct certain minor problems, and indicated where the prototype could still be improved and later transformed into a fully operational system that could be used on any site similar to the POM.

SOMMAIRE

L'industrie du transport intermodal a un besoin grandissant de moyens qui lui permettront de mieux suivre les conteneurs en transit et d'améliorer ainsi la manutention et la capacité de traitement des marchandises, de relever la sécurité des contenus et d'utiliser les technologies de l'échange de données informatisées (EDI). Comme l'utilisation d'étiquettes radiofréquences (RFID, pour *radio-frequency identification*) ou de sceaux électroniques n'est pas généralisée dans l'industrie du transport par conteneurs, l'automatisation de la reconnaissance des conteneurs doit encore passer par l'identification de numéros marqués sur le conteneur même. Le Port de Montréal est constamment à la recherche de moyens qui lui permettront de rehausser la compétitivité et la productivité de ses installations.

Ce projet de R&D a été entrepris par le Centre de développement des transports (CDT) de Transports Canada pour appuyer l'objectif du Port de Montréal de rendre plus efficaces et plus rentables les mouvements de conteneurs dans le port. Ce système intègre l'identification automatique d'équipement (IAE) à un moteur de reconnaissance optique des caractères (ROC) pour l'identification automatique des wagons et des conteneurs. L'intégration de ces deux technologies à un environnement de technologie de l'information répond au besoin du Port de Montréal de disposer rapidement d'une information précise, et constitue le premier pas vers une amélioration du niveau de service au client. Il s'inscrit également dans le cadre d'un programme de plus grande envergure qui vise l'intégration complète de l'EDI entre les intervenants en liaison avec le Port.

Les critères retenus pour évaluer la performance du système IAE/ROC avaient trait à la précision et au temps de traitement des données. La précision minimale exigée était de 80 p. 100. Pour ce qui est du temps de traitement des données, y compris de production de fichiers EDI, l'objectif visé était de 20 minutes après le passage d'un «train de référence», défini comme un train à deux niveaux de 6 000 pieds chargé à capacité, soit l'équivalent de 120 plates-formes portant chacune un maximum de trois conteneurs. Le système a été conçu pour fonctionner correctement au passage de trains roulant à des vitesses de 10 à 20 mi/h (15 à 30 km/h).

Le système IAE/ROC installé dans le port de Montréal a été conçu et mis au point par l'Institut national d'optique (INO) en sous-traitance avec le CDT. Le prototype du système a été mis à l'essai une première fois en novembre 2000 par l'INO. Plus tard, soit en août 2001, une deuxième série de tests ont été confiés à DTI. Ces essais ont révélé certains problèmes reliés à l'intégration des différents modules. Par la suite, le CDT a retenu DTI pour la gestion des activités associées à la réalisation d'un prototype opérationnel. DTI est également chargée de coordonner les mesures correctives, de les surveiller et de les mettre en œuvre.

Le CDT a alors confié à DTI les tâches suivantes :

- perfectionner et tester le matériel
- remplacer par des faisceaux lumineux le système d'éclairage de la cible relié au logiciel de ROC
- rendre les applications plus stables
- obtenir un meilleur synchronisme des informations reliées à la composante IAE du logiciel
- amener la précision du logiciel ROC à un degré supérieur
- pendant ces travaux, assumer les fonctions d'intégrateur de système et coordonner toutes les activités devant mener à l'acceptation du système

- assurer la supervision, la coordination, la vérification et l'approbation des plans et méthodes d'essai; faire l'analyse des résultats et mettre en œuvre les solutions élaborées pour garantir la réussite du projet.

DTI, avec la collaboration de Closed Circuit Television Corporation (CCTC), a vérifié, corrigé et perfectionné l'ensemble du matériel de manière à réaliser un système entièrement opérationnel. DTI a soumis le matériel informatique à une série de tests dans le but de retenir l'équipement et les configurations de logiciel produisant les qualités optimales de transfert d'images. On a procédé avec succès à l'installation des faisceaux lumineux afin de régler les problèmes associés à l'éclairage de la cible. L'INO et CCTC ont également amélioré le logiciel pour relever son niveau d'efficacité, de précision et de stabilité.

Une première série d'essais menés en novembre 2002 a donné des résultats prometteurs : pour 11 passages de train, la reconnaissance des codes de conteneurs valides a atteint un degré de précision de 89,9 p. 100. Or, des problèmes sont survenus au niveau du processeur d'acquisition d'images existant, en plus d'arrêts fréquents et d'un décalage vers le bas de certaines lignes de pixels. Avec l'approbation du CDT, DTI et ses partenaires ont apporté au système d'acquisition d'images des changements qui lui permettront de fonctionner avec la carte d'acquisition Matrox Genesis-LC 3000.

Les essais préliminaires ont repris pour une période de trois semaines en février 2003; il fallait tester la nouvelle carte puis l'intégrer aux sous-systèmes IAE et ROC. Durant cette période, l'INO et CCTC ont apporté d'autres modifications, qui ont donné des résultats similaires ou supérieurs à ceux obtenus lors des essais précédents. Compte tenu de ces résultats positifs, DTI entreprendra les essais de réception le 16 mars 2003; ceux-ci s'étendront sur deux semaines consécutives.

Les essais de réception ont été couronnés de succès : la reconnaissance des codes des conteneurs a eu un taux de précision de 91,76 p. 100 pour 12 passages de train pendant la première semaine, et de 90,8 p. 100 pour 14 passages durant la deuxième semaine. Pour la période considérée, les essais ont affiché une précision globale 91.31 p. 100 avec 3 359 conteneurs valides, et de 87 p. 100 pour l'ensemble des 3 494 conteneurs.

Les changements apportés à l'environnement informatique et à la configuration du réseau se sont également traduits par une diminution appréciable du temps de transfert de données entre les ordinateurs et par une augmentation de la vitesse de traitement. Des passages de trains sur une distance de 1 309 à 9 821 pieds ont été observés durant les essais de réception. Le délai de traitement du fichier EDI après le passage du train était inférieur à 3 minutes, ce qui est bien en deçà de la limite initiale de 20 minutes.

Les divers perfectionnements apportés par les chercheurs au matériel et au logiciel en cours de projet ont permis de satisfaire à toutes les exigences du Port de Montréal. Les essais de réception ont démontré le potentiel opérationnel indéniable du prototype IAE/ROC. DTI a recommandé des modifications pour corriger certains problèmes mineurs et indiqué les éléments susceptibles d'être améliorés davantage. Enfin, la firme a souligné le potentiel d'application éventuelle du système dans un environnement entièrement opérationnel similaire à celui du Port de Montréal.

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GLOSSARY

A/B	Sensor A / Sensor B
AEI	Automated Equipment Identification
AEI/OCR	Automated Equipment Identification/Optical Character Recognition
AGC	Automatic Gain Control
ANSI	American National Standards Institute
APC	Advanced Processor Card
AT	Advanced Technology
ATA	Analog Terminal Adapter
ATIB	AT Interface Board
BIC	Bank Identifier Code
CAT5E	Category 5 Enhanced
CCD	Charge-Coupled Device
CCTC	Closed Circuit Television Corporation
CD-ROM	Compact Disc Read-Only Memory
CMOS	Complementary Metal-Oxide Semiconductor
CN	Canadian National [Railway]
CPU	Central Processing Unit
DDR	Double Data Rate
DTI	DTI Telecom Inc.
E	East
EDI	Electronic Data Interchange
EoF	End of File
EoT	End-of-Train
ES	East South
GB	Gigabyte(s)
GE	General Electric
GHz	Gigahertz
GUI	Graphical User Interface
HDD	Hard Disk Drive
ICR	Intelligent Character Recognition
ID	Identifier
IDE	Integrated Device Electronics
INO	Institut National d'Optique
ISA	Industry Standard Architecture
ISO	International Organization for Standardization
IT	Information Technologies
KVA	KiloVoltAmpere
KVM	Keyboard-Video-Mouse
LAN	Local Area Network
LICO	Linear Camera Controllers
LININT	LINear INTerface
MB	Megabyte(s)
MBps	Megabyte(s) per second
MHz	Megahertz
Move	A move can be assimilated to the passage of a train. A move number is a sequential number attributed by the hybrid AEI/LICO system to any given move. A move number can take any value between 0 and 999.
mph	Miles per hour
N/A	Not available, not applicable

OCR	Optical Character Recognition
OCRail	Optical Character Recognition applied to ISO code recognition on train containers
OS	Operating System
P4	Pentium IV
PC	Personal Computer
PCI	Peripheral Component Interconnect
PIII	Pentium III
POM	Port of Montreal
R&D	Research and Development
RAM	Random Access Memory
RF	Radio Frequency [RF tag]
SDRAM	Synchronous Dynamic Random Access Memory
TDC	[Transport Canada's] Transportation Development Centre
Timestamp	Time values assigned to a specific event in time. In this application, timestamps are used to mark the precise instants of image capture start and finish times.
UPS	Uninterruptible Power Supply
VDC	Voltage Direct Current
W	West
XL	Extra-Life
XP	Windows XP Professional

1 INTRODUCTION

With the emergence of a global economy, companies are under more pressure than ever to improve efficiency. In the intermodal transport industry, there is a growing need for better tracking of containers in transit to improve handling operations and throughput, increase security and enable the use of electronic data interchange (EDI) and Internet-based technologies.

This R&D project was undertaken by Transport Canada's Transportation Development Centre (TDC) to help the Port of Montreal (POM) improve the efficiency and productivity of container movement through the Port. It complements a larger program seeking to achieve fully integrated EDI between POM stakeholders. The Automated Equipment Identification/Optical Character Recognition (AEI/OCR) system provides an automated train consist list in EDI format compatible with POM's Information Technologies (IT) environment. The objective was to fully automate the process of building a container train consist in an EDI format and to provide information that can integrate it into the IT and POM's community systems. This would provide value-added service and meet the stakeholder requirement for timely and accurate information.

The AEI/OCR system installed at POM was designed and developed jointly by the *Institut national d'optique* (INO) and its sub-contractor CCTC. This system integrates AEI with a state-of-the-art OCR system developed by INO for automatic identification of railcars and containers. Train images are gathered as the train passes through the system and processed by the OCR program to extract the ISO container code. The recognition task is performed by an OCR engine parsing every image of the train to segment and interpret the ISO 6346 codes painted on both sides of the containers.

The prototype AEI/OCR system as delivered by INO was first tested in November 2000. It successfully demonstrated the specified accuracy for container identification during the acceptance tests of the system installed at POM. However, the specified 20-minute processing time was not met. Following this test period, certain problems related to integration of the different network modules were identified. Among them, the nature and performance of the existing network and the diversity of operating systems used by the sub-systems were presented in the INO test report as being major sources of reliability and network performance problems.

In May 2001 TDC engaged the services of DTI Telecom Inc. (DTI) as a system integrator to work with CCTC on site during the installation, set-up, and test activities to achieve a successful resolution of the network transfer problems. DTI, with the collaboration of INO and CCTC, made many system modifications to solve network performance problems. Consequently, the system was able to achieve the data transfer within the 20-minute processing time. However, it was still a problem to obtain a consistently high container ID recognition rate.

In April 2002 TDC engaged the services of DTI as a system integrator to work with CCTC and INO on-site during the installation, set-up, and test activities to achieve successful resolution of the accuracy problems. The work encompassed the resolution of the system problems, the identification of the elements leading to a solution, and the implementation of corrective measures, including setting up the system prior to testing.

2 SYSTEM OVERVIEW

2.1 Functional Requirements

A complete description of the AEI/OCR prototype system can be found in the report TP 13880E *AEI/OCR System Integration*. The functional requirements of the system are primarily dictated by the rail-side system application. In addition, the system is required to generate an electronic train consist for paperless operations of POM stakeholders. A train consist is basically a list of all the container codes with the code of the platform bearing them. The OCRail software plays its role of the image analysis tool retrieving the container codes found in the train consist.

Fundamentally, the AEI/OCR system consists of three independent processing sub-systems (or sections) referred to as the linear camera controllers (LICOs), OCR and AEI. As the architecture is file-oriented, the main data stream between these sections is a high-speed local area network (LAN) controlled by a 100 MBps switch.

2.1.1 LICO Section

The LICO section comprises two computers handling image acquisition and generating image files. Since linear cameras are used, images are formed in line-scan fashion. A two-dimensional reconstruction of the train is thus achieved by juxtaposition of several line frames. Consequently, the whole length of the train can be considered to be a single image, although its physical representation is divided into smaller, more manageable blocks for convenience.

As the container's identification numbers are printed on both sides of the container, one camera is installed on each side of the track to provide information redundancy. Since double-stacked trains are commonplace, the vertical field of view of the cameras covers the whole height of a double-stacked car in order to capture the container IDs on both levels simultaneously.

2.1.2 OCR Section

The OCR section comprises two computers: Corail2 and Corail3. These handle the recognition of the printed IDs using the images provided by the LICOs. This section is responsible for reducing into a single code ID file the information contained in a large set of images. Section 2.2. describes OCR processing in more details.

2.1.3 AEI Section

The AEI section is responsible, among other things, for reading the AEI tags attached to railcars. Once the OCR processing is complete, the AEI section integrates the AEI information with the OCR information. The result of this integration is a custom EDI-based file that is transmitted to POM.

2.1.4 LAN and Data Flow in the System

The AEI/OCR prototype includes a LAN of computers as shown in Figure 1. As previously mentioned, Corail computers (comprising the OCR section) are connected to the LICOs and the AEI by a file exchange scheme. Corail computers receive and interpret image files produced by the LICOs. LICOs and Corail computers work in pairs as depicted in Figure 1. A LICOs writes the image files directly onto the local hard disk drive of its associated Corail computer.

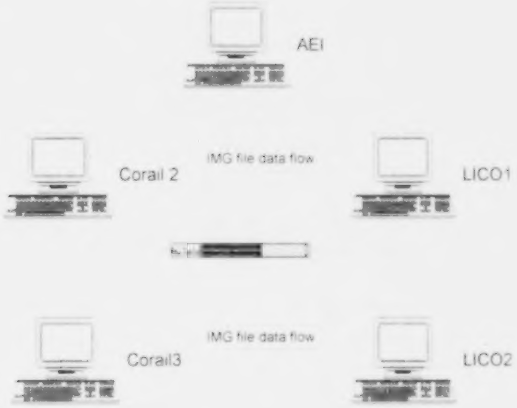

Figure 1 – Schematic of PC LAN topology

2.2 Challenge of OCR Processing

The OCR section handles the recognition of the printed IDs using images provided by the LICOs. The task is divided between two computers, one for each side of the train. Each of the two computers runs a separate instance of the OCRail.exe application. One is configured in primary operation mode, the other in secondary. The only difference between the two is that the primary computer is set to perform the validation phase (i.e., the extra tasks of two-sided analysis and generation of the final result).

In normal operation, processing of the files starts as soon as they appear on the network drive. The OCRail software on each side must process a series of image files that, put together, represent a complete image of the train. The collection of images belonging to a single train is a *move*. Images are generated externally by the LICOs and are directly stored in a custom IMG file format on the Corail computers. Local polling is used to determine whether new files are present. Because the image file generation processes on the LICOs make use of a rigorous naming convention, files are easily related to one side of a specific train and numbered in creation order.

Files are read in succession by each OCRail engine and processed to extract the ISO 6346 code present on the images, if any. At times, an ISO code may end up being distributed over consecutive images. To ensure proper processing in such situations, the files belonging to one camera should be read and processed in their order of creation until the last image of the train is encountered before the images generated by another camera are processed. Image filenames are used to identify their relative creation time. An end-of-train (EoT) flag present in the file structure determines the last image of the train. Thus, for a given move, this flag is set in only one file per camera.

After being read, the image files are filtered to clean up the unimportant information. A candidate region of interest for the location of the code is then searched. When a code is found, processing continues with the determination of the location of the individual characters composing the code. The individual characters are then submitted to an OCR engine for recognition. When this is done, a list of the characters found in the image is assembled. Each computer independently provides OCR information corresponding to the side of the train it is configured to analyse.

When the first recognition phase of processing is completed, a second phase takes place on the primary computer. This is the validation phase, during which the codes belonging to each side are paired as best as possible, and the validity of the ISO code is checked using semantics rules as well as redundancy. Final results are stored into an Intelligent Character Recognition (ICR) file, written back on the AEI computer.

From there on, the AEI-SITE software, in charge of integrating the AEI and OCR data, takes over. Thus container IDs are read from the ICR file and merged with the AEI information to form an EDI file that is sent to POM.

2.3 System Performance

The performance of the AEI/OCR system is a function of both the network data transfer rate and the OCR software program. The software-specific performance figure was assessed by factory testing OCRail 1.1., whereas system-related or network performances was measured as part of the assessment of the global performance of the AEI/OCR prototype.

The network data transfer rate and container identification accuracy specified for the system were conditional on meeting well-defined criteria. The analysis of the test results conforms to specific validity criteria outlined in Table 1.

Table 1 – Transfer rate performance

Objective	Processing time within 20 minutes (from detection of the train to creation of the EDI file containing the data)
Validity criteria	Reference train must pass by the site within 6 minutes 49 seconds at a minimal rated speed of 10 mph Overall processing time must be achieved within 20 minutes Train speed must be between 10 and 20 mph

Table 2 – OCR accuracy performance

Objective	OCR accuracy over 80%
Validity criteria	Container ID code should be compatible with ISO 6346 identification standard Complete ID code must be visible (nothing missing, hidden, erased, or altered) The light beams must be aligned to detect the presence of containers The calibration lights must be functioning for adjustment of camera gain and ambient luminosity; otherwise, over- or underexposure of the images may occur

3 SYSTEM DESCRIPTION

3.1 Overview

The system was developed with several design objectives in mind. It had to have the capacity to extract the ISO 6346-compliant codes present on the containers' walls and assemble them reliably under normal environmental conditions (e.g., dirt, snow, quality of print, effects of ambient light such as shadows, day and night operation, etc.) encountered in the shipping of containers by rail. The system was also required to handle single and double-stacked containers. It had to be able to read the AEI tags of the container-carrying railcars and merge the information from the AEI tags with the containers' ID numbers.

The performance of the AEI/OCR system was specified in terms of accuracy and processing time. The minimum required accuracy was established at 80%. The time to process the results, including the generation of an EDI file, was within 20 minutes of the passage of a fully loaded, double-stacked 6000-ft. train. The system was also designed to ensure proper operation for train speeds varying between 10 and 20 mph (15 to 30 km/h), although the system can also handle slower speeds, train stops, and direction reversals.

The aim of the AEI/OCR system delivered to POM is to perform on-the-fly reading of both the AEI tags present on the railcars and the ID code painted on the containers. The system was designed in 1997-98. Since then, huge technological developments have occurred in the field of imaging sensors and cameras, making it relevant to review the video aspects of the system. The train image acquisition is controlled by dedicated computers and frame grabbers forming part of the LICO sub-system. The images are then sent to the OCR system for processing. A dedicated computer is used to acquire and process the AEI data and merge it with the OCR data. All computers are linked through a high-speed LAN controlled by a 100 MBps switch.

Experience with setting up and operating the prototype also showed that making its main sub-systems less interdependent would lead to simplified calibration and maintenance. This report contains a preliminary discussion for the redesign of the OCR sub-system, including a brief component study.

3.2 Current System Design

3.2.1 Physical Implementation

Figure 2 gives a schematic view of side 1 of the physical layout of the AEI/OCR system. The prototype features a number of sensors distributed, along the trackside. Among them are wheel sensors (axle detectors) to detect the presence of a train and perform speed assessment. The complete system consists of two AEI antennas mounted on each side of the track, three track-mounted railcar wheel sensors, two linear line-scan cameras, a lighting system, and a series of computers and dial-up lines for remote debugging and data transfer. The wheel sensors are used to detect the direction of the train and as a feedback mechanism to control the camera's line rate and maintain a constant pixel aspect ratio.

The post farthest from the track holds the camera and its housing. The line-scan camera has a field of view covering 20 ft., such that a double-stack of containers falls entirely within the vertical field of view.

The post nearest to the track bears a standard AEI antenna (SmartPass) and different types of lighting. The latter includes two main lighting stages (top and bottom), which are responsible for the uniform illumination over the surface of the containers, and a calibration target used to control the gain of the camera. It also includes two light beam sensors whose purpose is to detect container presence on the top or the bottom stack.

The prototype also features a bungalow that shelters the computers and required electronics.

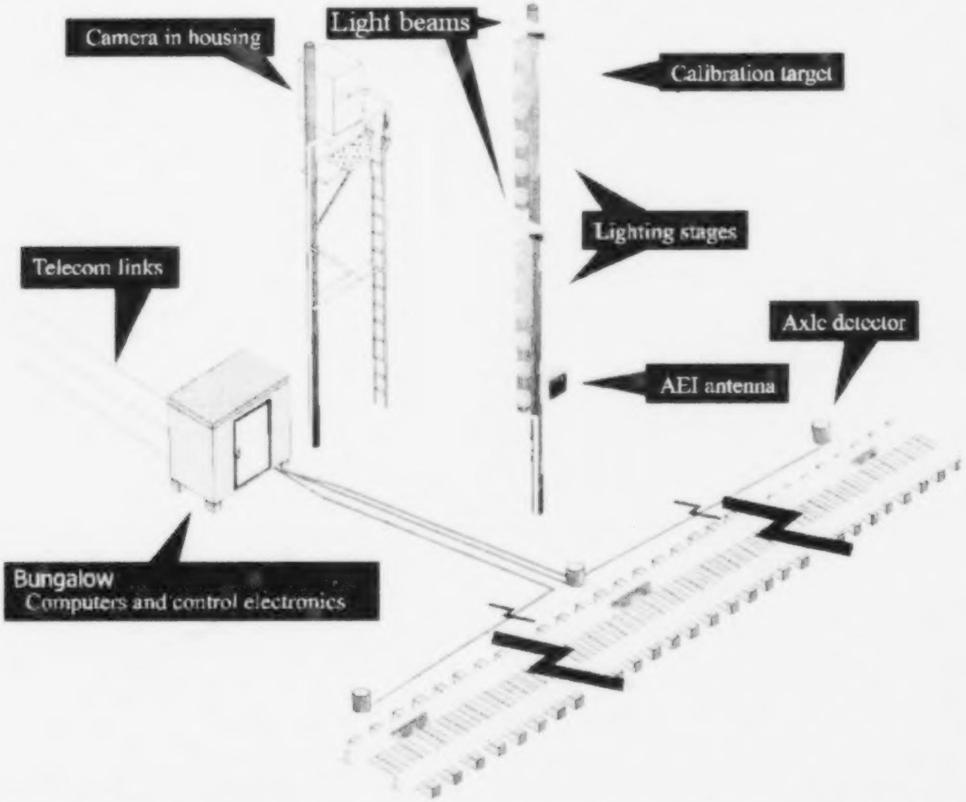
Camera in housing
Light beams
Calibration target
Lighting stages
Telecom links
Axle detector
AEI antenna
Bungalow
Computers and control electronics

Figure 2 – Site schematics for side 1 of the prototype, and its relation to the track

3.2.2 System Architecture

Fundamentally, the system consists of three independent sub-systems: the LICO, OCR and AEI.

The LICO sub-system handles train detection, image acquisition and file generation (IMG format). Since linear cameras are used, images are formed in line-scan fashion. A two-dimensional reconstruction of the train is thus achieved by juxtaposition of several line frames. Consequently, the whole length of the train can be considered to be a single image, although its physical representation is divided into smaller, more manageable blocks for convenience.

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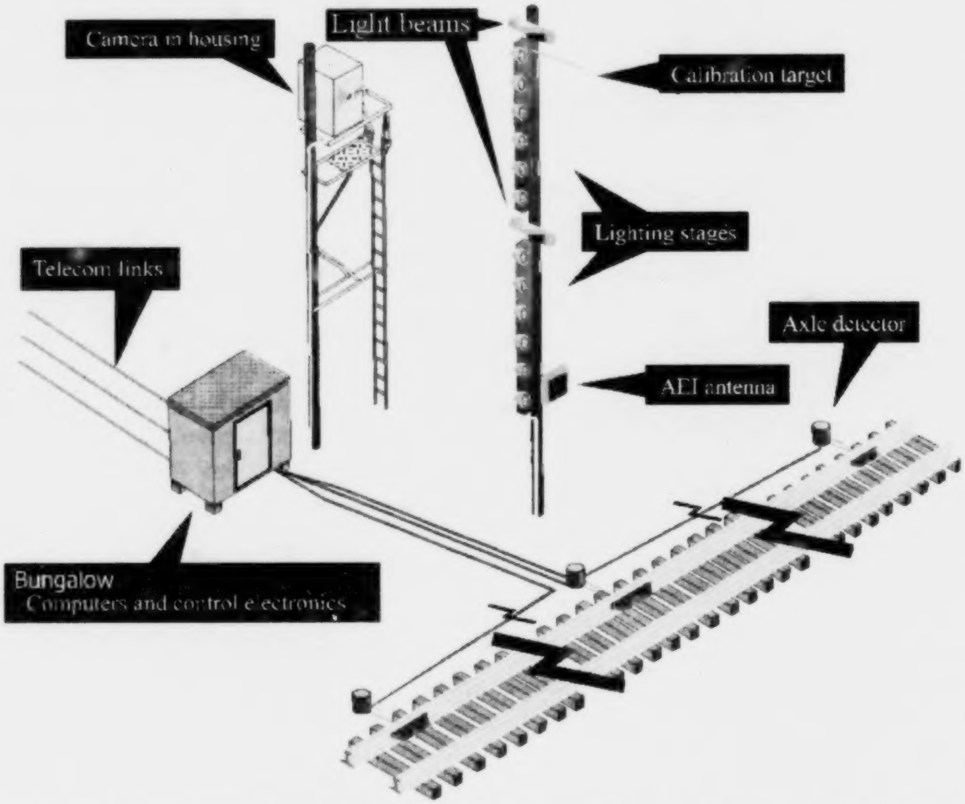
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The video module of the LICO sub-system acquires images by sampling the cameras at the maximum rate and sub-sampling the video signal according to the train speed. Speed is obtained from the AEI sub-system. Light beam signals and train-related information is encoded into the image header. The image is written on a designated hard disk drive. The automated gain control strategy is achieved by monitoring the intensity of the target reference light within the images. This intensity is compared to a pre-set reference level to control a motorised iris within the objective of the camera.

The images produced are processed by the OCR sub-systems (one for each camera), which produce a preliminary container code that will be retrieved and merged with the one found on the other side of the container. The resulting code and the relevant train information are then written into a file that will be read by the AEI sub-system.

The AEI sub-system is responsible, among other things , for reading the AEI tags attached to railcars. In addition, it provides timing and speed signals for the linear camera section. Once the OCR processing is complete, the AEI section is also responsible for the integration of the AEI information with the OCR information. The result of this integration is an EDI-based file that is transmitted to POM.

3.3 Design Constraints

This section briefly describes the two main design constraints for the AEI/OCR system.

3.3.1 Train Speed

Train speed is assessed from wheel sensors. The train is going at speeds from 0 to 20 mph.

In order to be versatile, the system should accommodate for train speeds up to 60 mph (100 km/h), assuming that the wheel sensor could reliably measure that speed.

The speed requirement leads to a camera line-scan rate requirement. In fact, the minimum line-scan rate of the camera is the train speed divided by pixel size. The computation was achieved for 1024-, 2048- and 4096-pixel cameras and is shown in Table3.

Table 3 – Required camera line rate as a function of number of pixels

Pixels	Pixel size on container (mm)	Required line rate (kHz)
1024	6	4.6
2048	3	9.2
4096	1.5	18.5

3.3.2 Space Limitation

The footprint of the entire system is of consequence. The actual prototype spans some 20 ft. each side of the track. Reducing the overall space requirement to about 10 ft. each side would potentially lead to a simpler system design, as both illumination and the cameras could be mounted on a single post. The standoff constraint for the camera is thus expressed as any distance up to 20 ft.

4 IMPROVEMENTS TO AEI/OCR SYSTEM PRIOR TO ACCEPTANCE TESTS

4.1 Task 1 – Upgrade Physical Installation and Modify the Electrical Circuit Design

The first task consisted of upgrading or replacing some of the equipment located on site at POM near elevator 5. Equipment such as the camera fixtures, light fixtures, electrical panel, relay box, wheel sensor and computer equipment were modified and/or cleaned to improve the system's operation.

Cleaned: Bungalow and camera fixtures.
Modified: Light fixtures, wheel sensor, electrical panel, relay box.
Modified and cleaned: Computer equipment.

4.1.1 Reinforcement of Side 1

Two torsion bars were supposed to be installed on each camera housing to reduce vibration when trains pass. These two bars were not installed because the results would not have been conclusive enough. Side 1 was reinforced by the installation of three steel cables. The first one runs from the camera post to the metallic structure of the conveyor. The second cable runs from the camera post to the light post of the system on side 1, and the third cable runs from the camera post to the electric sub-station (see Figure 3). The fixtures for the camera housing were reinforced by tightening the screws to their maximum. These modifications were done on August 12th 2002.

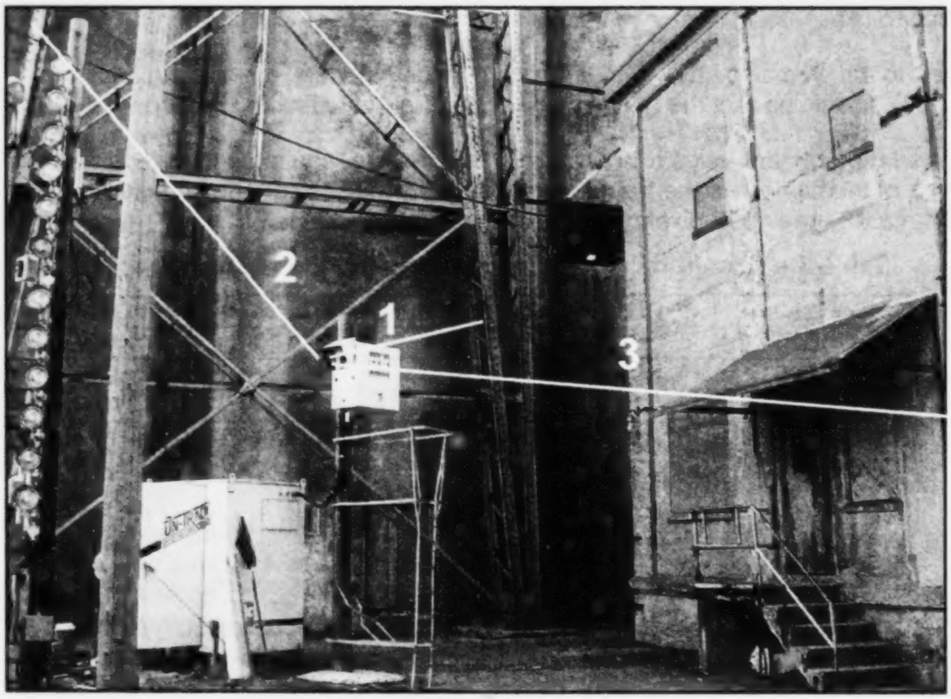


Figure 3 – Diagram of the work done

Figures 4 and 5 present an overview of the cables that were installed to reinforce the post for camera 1.

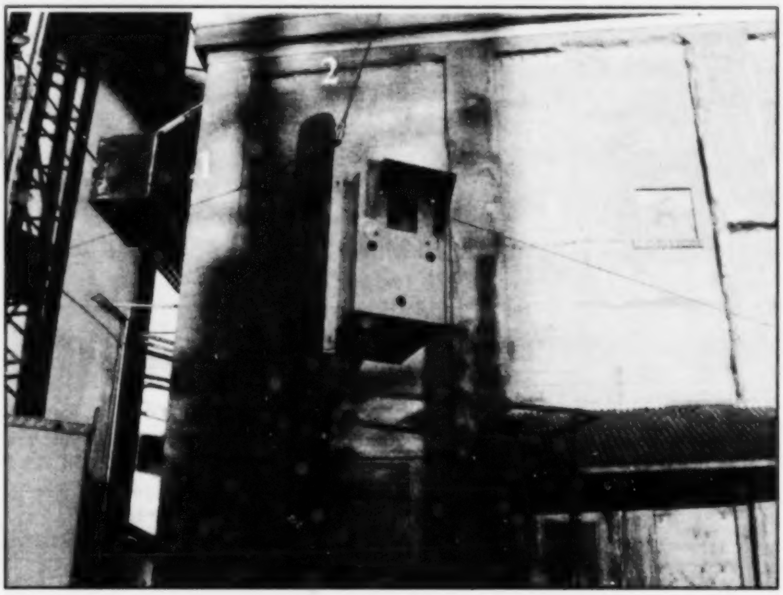


Figure 4 – Overview of cables

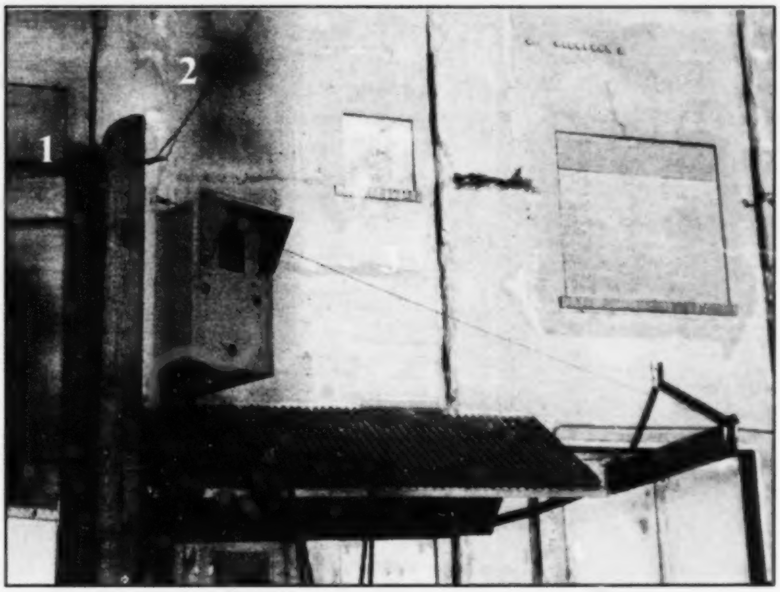


Figure 5 – View of cable 3 to electric sub-station

4.1.2 Reinforcement of Side 2

The fixtures for the camera housing on side 2 were reinforced by tightening the screws to their maximum. The rest of side 2 was not reinforced because there was no structure to which to attach the cables and for safety reasons since there is more vehicle traffic on this side.

4.1.3 Modification of Light Pods

The light fixtures were removed by CCTC on May 13th 2002. The lights were replaced because the parts were corroded. The light pods were redesigned by CCTC. A junction box was installed for each light. The box was attached to the vertical support that was screwed to the post. Using this method combined with the junction boxes made it possible to install a smaller support on the post and reduce sway. The light pods are thus attached more solidly to the post. The fixtures were reinstalled on May 22nd and 23rd 2002 by CCTC.

Figure 6 shows the light fixtures before the modifications and Figure 7 shows the fixtures after the modifications.

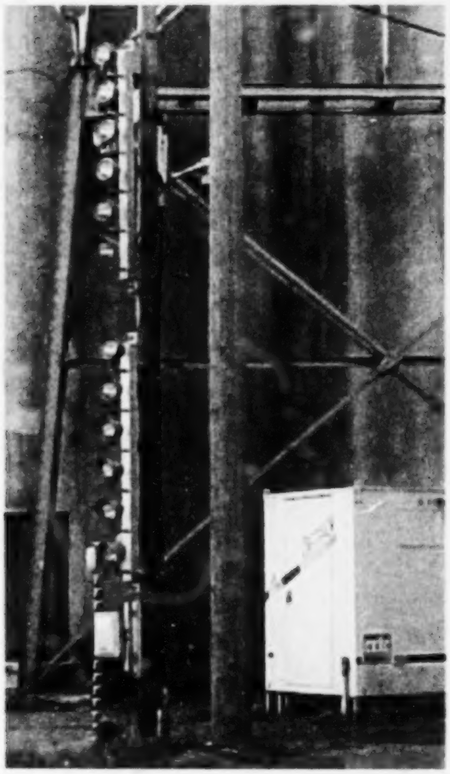


Figure 6 – Light pods before modifications

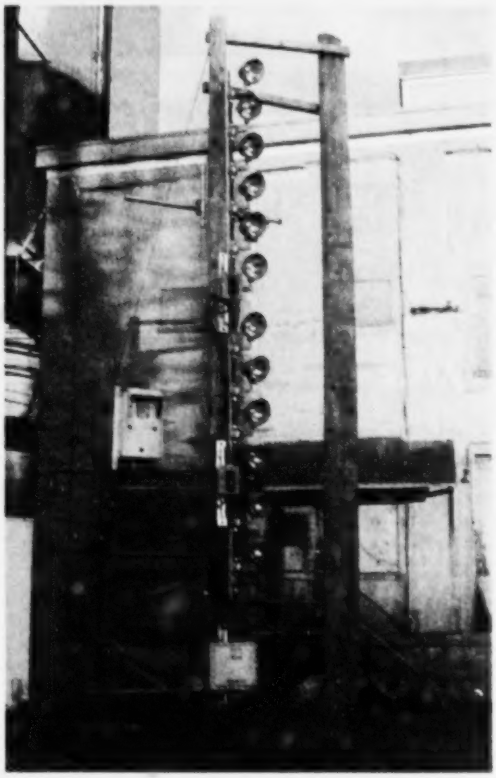


Figure 7 – Light pods after modifications

Figures 8 and 9 show close-ups of the old and new light fixtures and the part that was replaced because it had corroded.

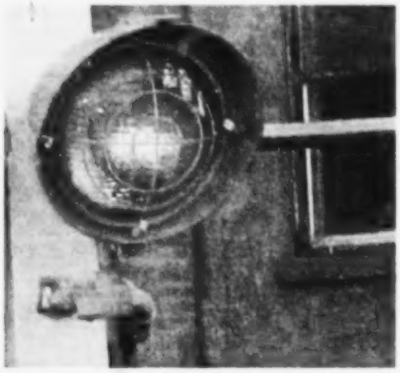


Figure 8 – Light pods before modifications

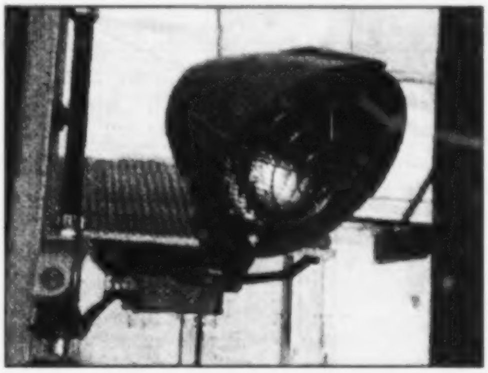


Figure 9 – Light pods after modifications

4.1.4 Solid State Relay

The 25A and 45A solid state relays were replaced with 40A relays. They were changed because of the problems encountered with the 25A solid state relays, which were not adequate. The solid state relays on relays 1 to 8 were replaced with 40A relays to standardize the system. The 40As were installed instead of 45As because the 40As were available immediately, whereas there was a delivery period of eight weeks for the 45As. One solid state relay was added to separate the target lights. The work was done on May 28th and 29th 2002 (see Figure 10).

If a relay malfunctions, not all the lights are affected. For example, if relay 1 is not working, only lights 1, 3 and 5 above camera 1 will go out. This configuration makes it possible to maintain a certain amount of lighting above camera 1.

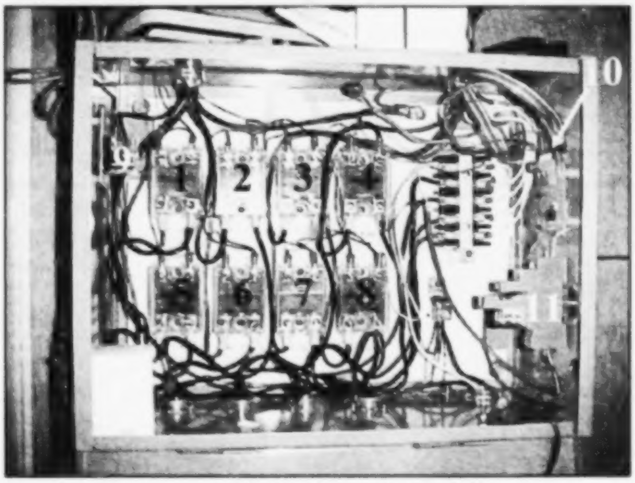


Figure 10 – Relay box

The numbers in Figure 10 match the "diagram #" in Table 4, which gives a description of the relay box with the number of amperes, breakers and lights associated with each item.

Table 4 – Description of relay box

Diagram #	Description	Amps	Breakers	Correspondence with lights
1	Light pod 1	40	Breaker 1	Lights 1-3-5 below camera 1
2	Light pod 2	40	Breaker 5	Lights 7-9-11 above camera 1
3	Light pod 3	40	Breaker 2	Lights 1-3-5 below camera 2
4	Light pod 4	40	Breaker 6	Lights 7-9-11 above camera 2
5	Light pod 1	40	Breaker 3	Lights 2-4-6 below camera 1
6	Light pod 2	40	Breaker 7	Lights 8-10-12 above camera1
7	Light pod 3	40	Breaker 4	Lights 2-4-6 below camera 2
8	Light pod 4	40	Breaker 8	Lights 8-10-12 above camera 2
9	Relay for target lights.	10	Breaker 17	N/A
10	The light pods do not turn on when locomotives pass by. Only the container tags cause the lights to turn on.	N/A	Breakers 1, 3, 5 and 7	N/A
11	Does not trigger detection when locomotives pass by because the light beam signal is only sent once the first tag on a car goes by.	10	Breaker 14	N/A

4.1.5 Breakers

The diagram for the electrical box was redone by DTI, and a CCTC electrician made the changes in the bungalow (see Figure 11). The purpose of the modification was to have a partially functional system, which makes it possible to have results if one of the breakers malfunctions.

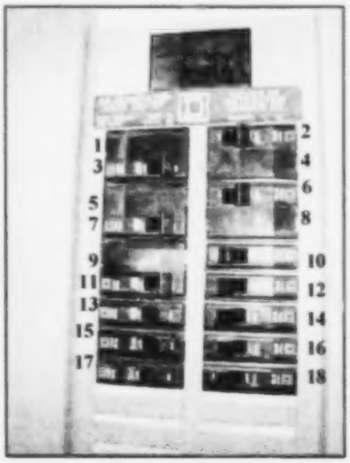


Figure 11 – Electrical box

Table 5 shows the layout and description of the breakers with the old and new configuration.

Table 5 – Layout and description of breakers

Before		After	
Breaker	**Description**	**Breaker**	**Description**
1	Light pod 1 (above camera 1)	1	Light pod 1 (above camera 1)
3	OCR target lights (camera 2)	3	Light pod 1 (above camera 1)
5	Light pod 2 (above camera 2)	5	Light pod 2 (below camera 1)
7	Light pod 2 (above camera 2)	7	Light pod 2 (below camera 1)
9	Cooling	9	Cooling
11	Heating	11	Heating
13	Camera 2	13	Camera 2
15	Camera 1	15	Camera 1
17	Free	17	Target light
19	Free	19	Free
21	Free	21	Free
23	Free	23	Free
2	Light pod (below camera 2)	2	Light pod 3 (above camera 2)
4	OCR target lights (camera 1)	4	Light pod 3 (above camera 2)
6	Light pod 1 (above camera 1)	6	Light pod 4 (below camera 2)
8	Light pod 1 (above camera 1)	8	Light pod 4 (below camera 2)
10	Interior lighting	10	Interior lighting
12	CCTC rack upper (electrical outlet for the right rack)	12	CCTC rack upper (upper electrical outlet, back wall inside the bungalow) (right side)
14	CCTC rack lower (electrical outlet for the right rack and power for the RF antennas)	14	CCTC rack lower (lower electrical outlet, back wall inside the bungalow) (right side). Power for the RF antennas and light beams.
16	INO rack (electrical outlet near the left rack)	16	INO rack (electrical outlet on the left side inside the bungalow)
18	Service (electrical outlet on the left side of the bungalow)	18	Service (electrical outlet on the right of the breaker box)
20	Free	20	Free
22	Free	22	Free
24	Free	24	Free

4.1.6 Wheel Sensor

The A/B wheel sensor was moved to the east to avoid being broken by passing vehicles or machinery. It was installed between the two fences close to the carpet bedding. The protective part was not moved because there was no vehicle traffic between the two fences.

The work consisted of piercing the rail to make two 3/8-in. holes to allow for installation of the sensor. A trench about 12 in. wide was dug about 6 ft. from the track from the current location to the new location. The site was cleared of all asphalt and rock debris. After the work was completed, the trench was filled with the dirt that had been excavated, and a layer of stone dust was used to finish it off. These modifications were done on August 12^{th} 2002.

Figure 12 shows the area where the trench was dug and the location of the new sensor.

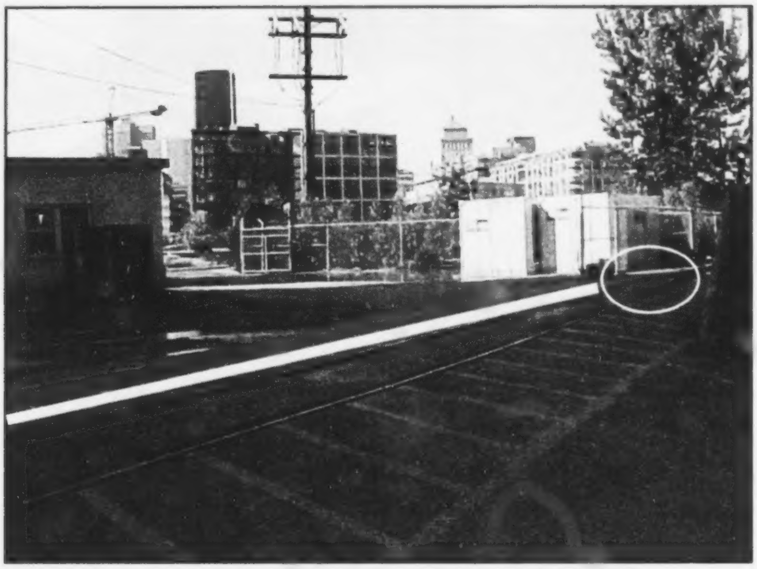


Figure 12 – Area of trench and location of new A/B wheel sensor

Figure 13 shows the old sensor location and the current location, and Figure 14 shows a close-up of the sensor.

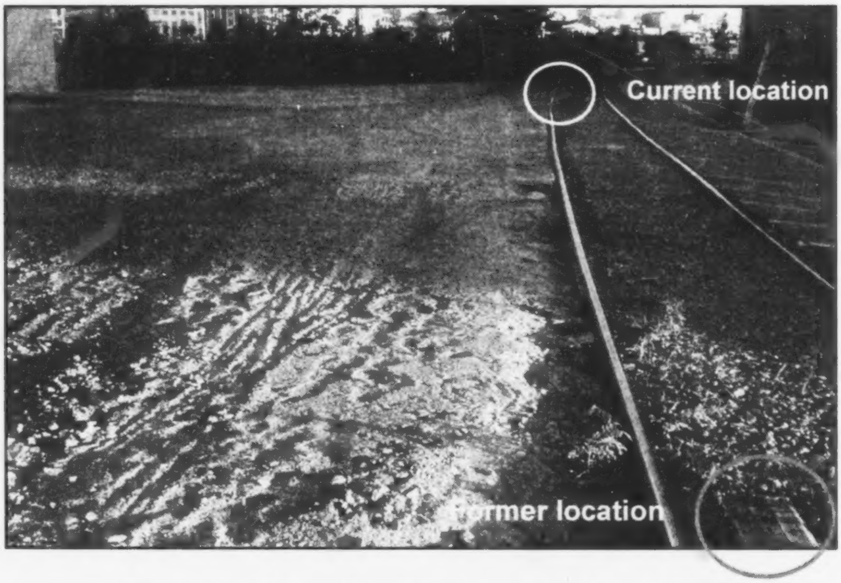


Figure 13 – Old and new location of the A/B wheel sensor

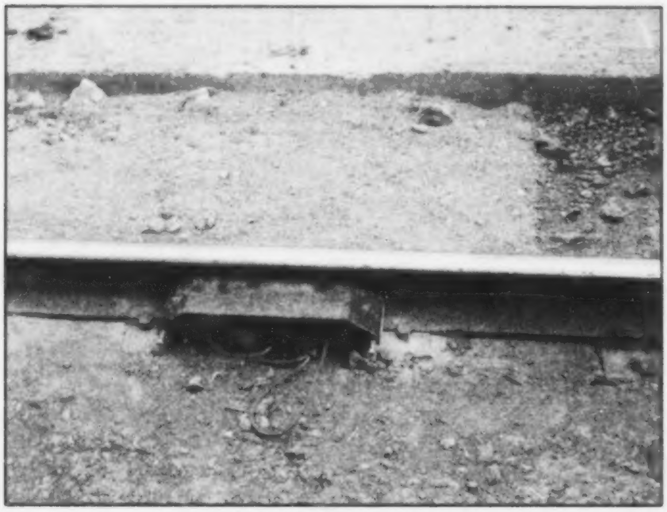


Figure 14 – A/B wheel sensor

4.1.7 Computer Equipment

The computer equipment was removed from the bungalow on March 26th 2002. The equipment was checked and a number of parts not required for the new configurations were returned to POM on May 23rd 2002.

DTI purchased the new equipment listed below to upgrade the system:

- Two Startech SV431D switchboxes
- Two 15 in. Compaq V570 monitors
- Six 6 ft. cables for the SV431D switchboxes
- Two Logitech optical mice
- Two updates of the Diskeeper workstation 7 software
- One hard drive drawer
- One Smart-UPS 1500
- One 40 GB ATA/100 hard drive
- Two 10 ft. CAT5E twisted pair cables

This equipment was tested and installed at POM on June 7th to 10th 2002.

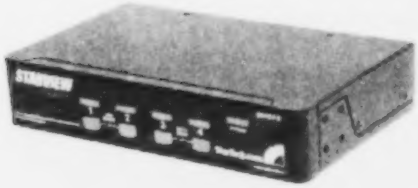
4.1.8 Switches with 6 ft. Cables

Two switches were installed in the bungalow. The first one is located on the left rack and connects the keyboard and mouse for the two Corails, as well as the computer that simulates a server located at POM. The second switch is located on the right rack and connects the keyboard and mouse for the two LICOs and the AEI. When the computers are turned on, they do not need to be selected on the switch for the operating system to detect the presence of a keyboard and mouse.

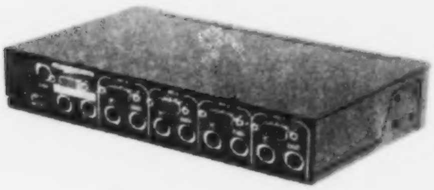
Figure 15 shows the switch and Figure 16 shows the cables used.

Startech switchbox #SV431D

Front view



Back view



KVM switch cable #SVPS23N1_6

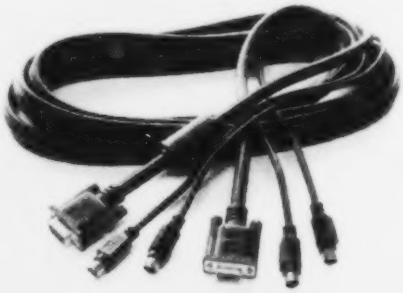


Figure 16 – Cable used for each computer

Figure 15 – Front and back view of switch for monitor

4.1.9 Monitors

The two Compaq V570 monitors (see Figure 17) were successfully tested and installed at POM. The computers are configured for a resolution of 1280 x 1024 pixels. This resolution was chosen because, with a resolution lower than 1024 x 768 pixels, the operating system is not compatible with the switch for the monitors.

Figure 17 – Compaq V570 monitor

4.1.10 Logitech Mouse

Two optical mice were installed for easier use on irregular surfaces (see Figure 18).

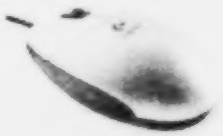


Figure 18 – Logitech mouse #930732-040

4.1.11 Diskeeper Software

The Diskeeper software was updated to version 7, which was the most recent one available at the time. It was installed on both Corails.

4.1.12 Hard Drive Drawer

One hard drive drawer was installed on the Corail2 to limit access to the disk containing the operating system, thereby speeding up the transfer time (see Figure 19).

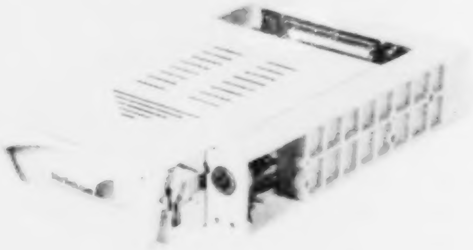
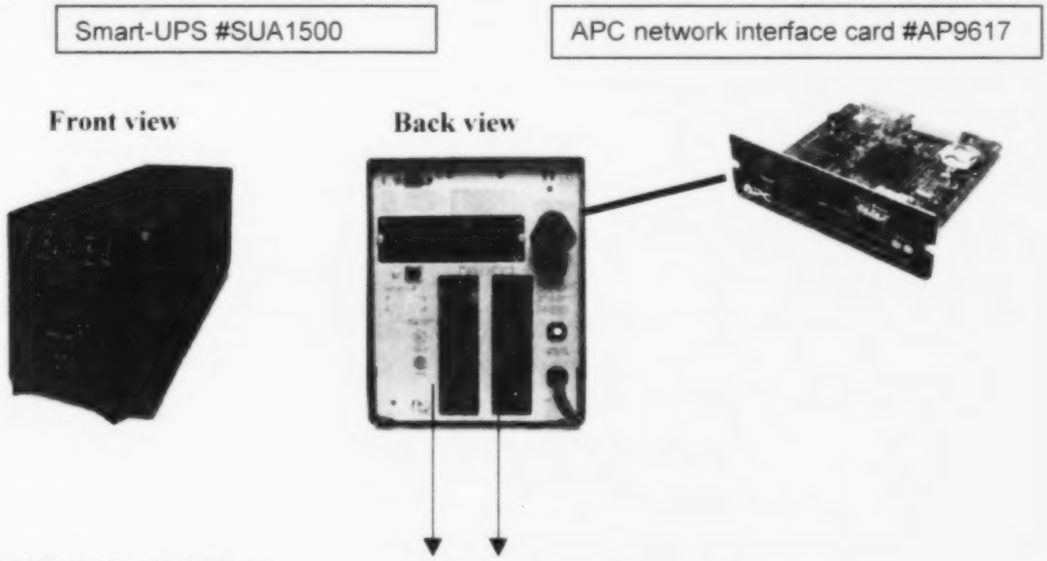


Figure 19 – Startech drawer #SNT127A

4.1.13 UPS

The UPS (Uninterruptible Power Supply) is located below the left rack. The Corail1 and POM computers, the switch for the monitor and the AT (Advanced Technology) switch are connected to it (see Figure 20). A second UPS was removed by POM before the reinstallation started. PowerChute software was installed to configure the computer shutdown. A network interface card on the UPS makes it possible to configure the UPS and to add the PowerChute clients.


Smart-UPS #SUA1500
APC network interface card #AP9617
Front view
Back view

Equipment connections

POM	Startech switch
Free	Free
Corail1	Free
AT switch	Free

Figure 20 – UPS and equipment connection

Configuration of APC network interface card

The APC network interface card makes it possible to shut down several computers at the same time, using the network in place. It is also used by the computers to communicate with the Smart-UPS for the UPS shutdown configurations (see Table 6).

Table 6 – UPS configuration

Configuration	**Value**
On-Battery shutdown behaviour	Return on line return
Return battery capacity	0%
Low-Battery duration	5 minutes
Shutdown delay	90 seconds
Return delay	180 seconds

On-Battery shutdown behaviour means that the UPS will start operating again when the power is restored.

Return battery capacity defines the minimum capacity required from the battery for the UPS to be able to restart after a shutdown caused by a power failure.

Low-Battery duration defines the time interval that the UPS will continue to run on battery power when the battery is low.

Shutdown delay defines the time interval before the UPS stops operating in response to a shutdown command.

Return delay defines the time interval before the UPS can restart after a shutdown caused by a power failure.

Workstation configuration

The workstations were configured separately according to their task and the UPS's operating time. The first option tells the computer to shut down in the case of a power failure. The second option tells the computer when it must shut down after a power failure. The third option tells the computer whether it is responsible for putting the UPS into Sleeping status. Only one computer is responsible for putting the UPS into Sleeping status when all the other computers are shut down.

Table 7 – Workstation configuration

Corail1 configuration	Value
Yes, I want to shut down the system	Option checked
Shut down the system only when the event lasts this long (seconds)	2700
Turn off the UPS after the shutdown finishes	Option checked

POM configuration	Value
Yes, I want to shut down the system	Option checked
Shut down the system only when the event lasts this long (seconds)	2700

If a power failure lasts more than 45 minutes, POM computer will shut down and the Corail1 computer is in charge of putting the UPS into Sleeping status. When the power is restored, the UPS will start operating to restart the other computers. All the computers will start operating at the same time.

4.1.14 Hard Drive

A 40 GB ATA/100 hard drive was installed in a hard drive drawer to recover the images for analysis. The hard drive is located at the DTI offices.

4.1.15 CAT5E Cable

Two 10 ft. category 5E twisted pair cables were installed in the bungalow. They connect the UPS and the AEI to the AT switch.

4.2 Task 2 – Replace the OCR Target Lights with Light Beams

4.2.1 Light Beams

Photo-electric units were added to detect the beginning and the end of an object. These units contain two pulsed infrared energy beams that operate reliably 99% of the time even in heavy rain, dust storms, fog or snowfall. The frost guard design incorporates special slots in the cover that allow the beams to pass even when the cover is completely frosted over. The design of the OPTEX cover also reduces condensation and evacuates the water that collects, while the sealed optical system provides greater protection against dust and insects. The automatic gain control (AGC) circuit continuously monitors the gradual changes in the strength of the signal caused by the weather conditions and adjusts the triggering level accordingly to maintain the proper sensitivity. The twin beams must both be blocked in order to trigger an alarm. No alarm sounds when a small object blocks only one beam.

The separate signal from each of the two light beams appears as a horizontal strip of 7 pixels at the top of the image in the region where the target light can be seen. These strips carry binary information on the presence or absence of a container group in front of the system. By default there is no signal and what is seen is the target light. Whenever a container cuts the light beam, a dark constant signal appears instead of the target light. The design ensures that a simple threshold will perform as a container detection operator. Note that by construction, there is a spatial shift between the position of the container in the image and the presence signal.

Figures 21 and 22 show a transmitter and a receiver that look identical.

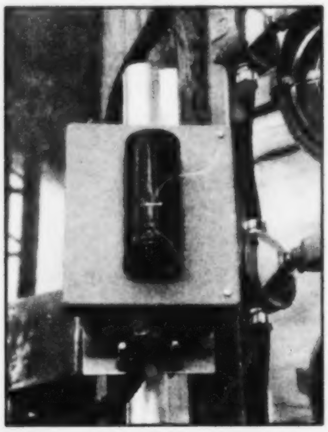


Figure 21 – Transmitter on side 1

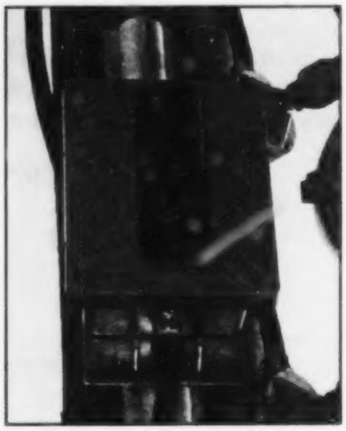


Figure 22 – Receiver on side 2

Figures 23 and 24 show the old target lights and the new light beams.

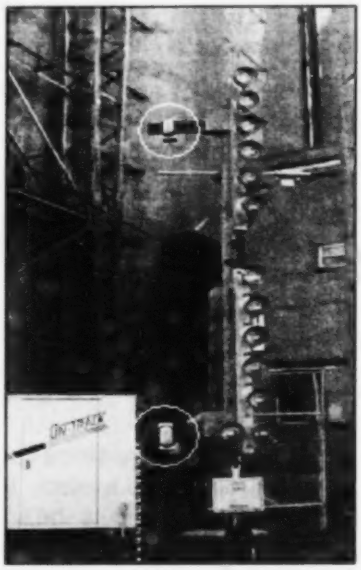


Figure 23 – Before modifications

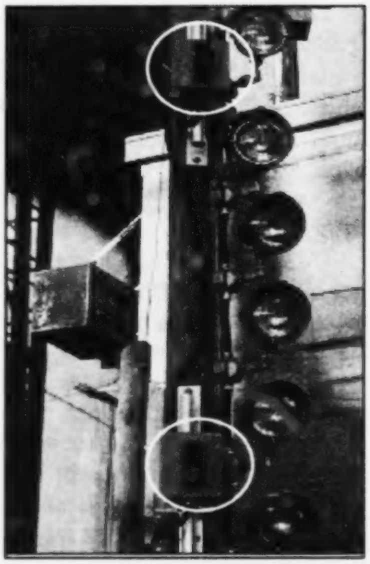


Figure 24 – After modifications

4.2.2 Location

The photo-electric sensors are attached to the light posts on each side of the track. A set consists of one transmitter and one receiver. The transmitters are installed on side 1 and the receivers on side 2 (see Figure 25). The bottom ones are at 9 ft. and the top ones are at 14 ft.

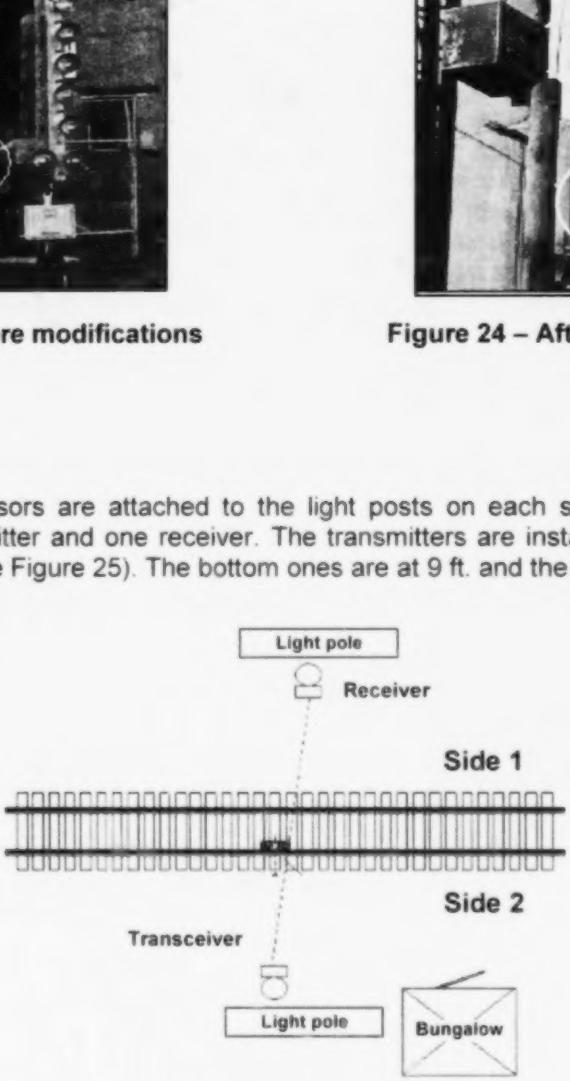

Light pole
Receiver
Side 1
Side 2
Transceiver
Light pole
Bungalow

Figure 25 – Location of transmitters/receivers

4.2.3 Cables

The cables used for these modules were pulled through the same conduit as the cables for the AEI antennas. A junction box was installed at the end of the conduit (post side) to provide an output for the wiring for the photo-electric modules. Flexible conduits were installed from each junction box to each photo-electric unit to install the wiring (see Figure 26). The wiring and the flexible conduits make it possible to reposition the transmitter and receiver units up or down by about 2 ft. from the initial position. The +12VDC power for each photo-electric unit was provided by a circuit (see Table 5, breaker 14) separate from the power for the AEI computer and the LICOs so as not to disrupt their operation if a power failure occurs.

The sensing contacts for each set (transmitter and receiver) are connected to the two camera interface boards (LININT), i.e., the master and the slave. This contact generates a change in the first 16 pixels of the image associated with the presence of an object.

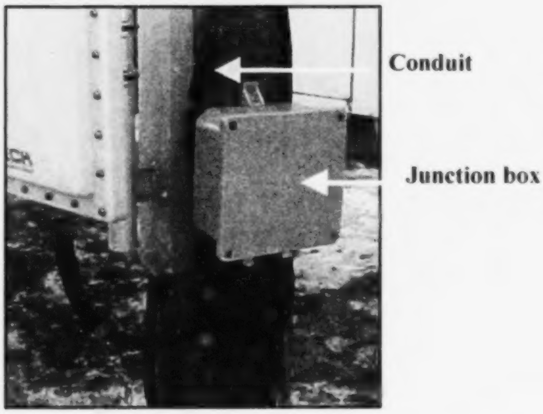


Figure 26 – Junction box and flexible conduit

4.2.4 Operation

When a container passes the transmitters/receivers, the beam is cut, causing a contact to be closed at the alarm output for each photo-electric unit. This detection is sent to the LININT camera input control circuit. The presence of an object produces a black bar at the top of each image. If an object cuts the signal at the second receiver, the black bar appears on the first eight pixels of the line. If the lower photo-electric unit detects an object, the black bar appears on the 8 pixels of the following line. When no object is detected, the video signal is not changed, and a grey area is present on the first 16 pixels of the image.

Figure 27 shows the results of the container detection. The two black bars indicate the presence of a container, and the grey area appears when no container can be seen.

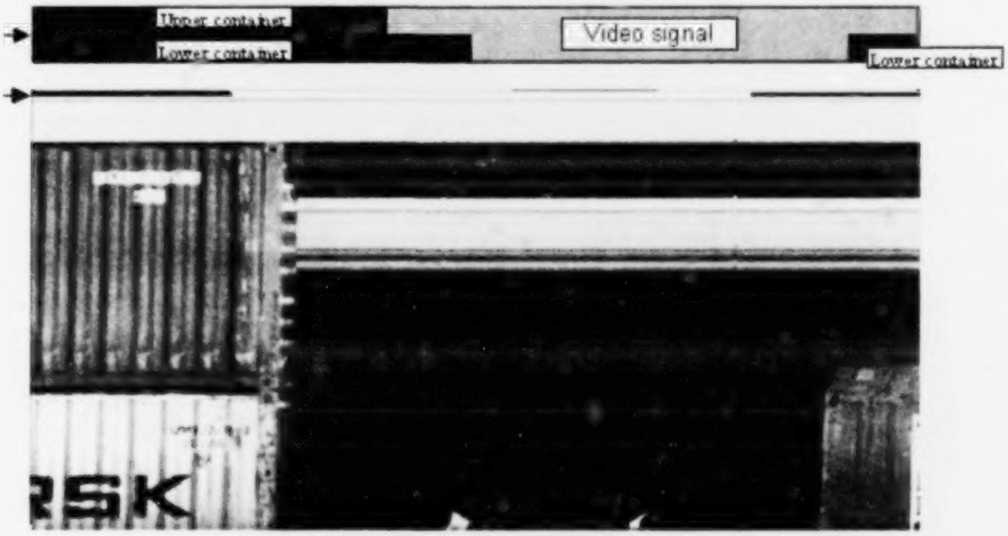


Figure 27 – Container detection

OCRail Software

The OCRail software from INO was modified to take the information in the first 16 pixels of each image into account. In the old version, the software used the signal from the target lights. Now, the light beams are used to detect the containers.

The new segmentation algorithm is applied to determine the placement of the containers in the segment. For example, there may be two 20-ft. containers on the bottom and one 40-ft. container on top (see Figure 28).

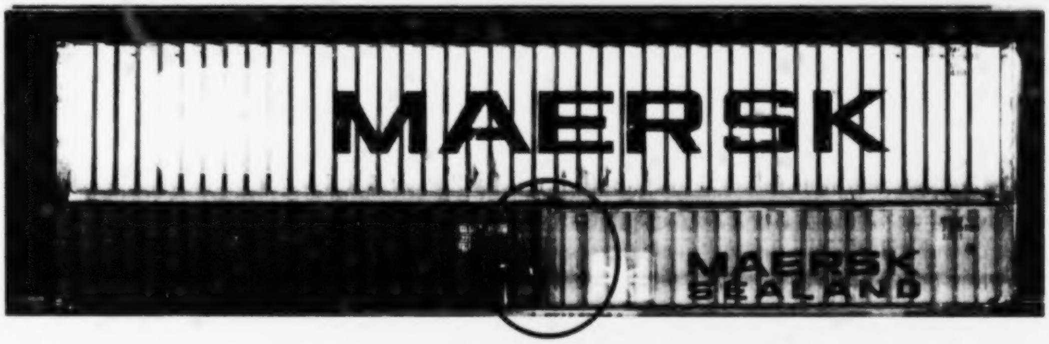


Figure 28 – Two 20-ft. containers and one 40-ft. container

In Figure 28, the circled area shows the spot that the segmentation algorithm searches to see whether one or two containers are present. With the signal from the light beams, the algorithm determines the length of the group of containers. The algorithm then searches a specific location to segment the image at the right spot.

The photo-electric sensors were successfully tested at POM by CCTC.

Integration with the rest of the system was also successful. Figure 29 is an image showing that the black bars representing the detection of containers were present at the top of the image.

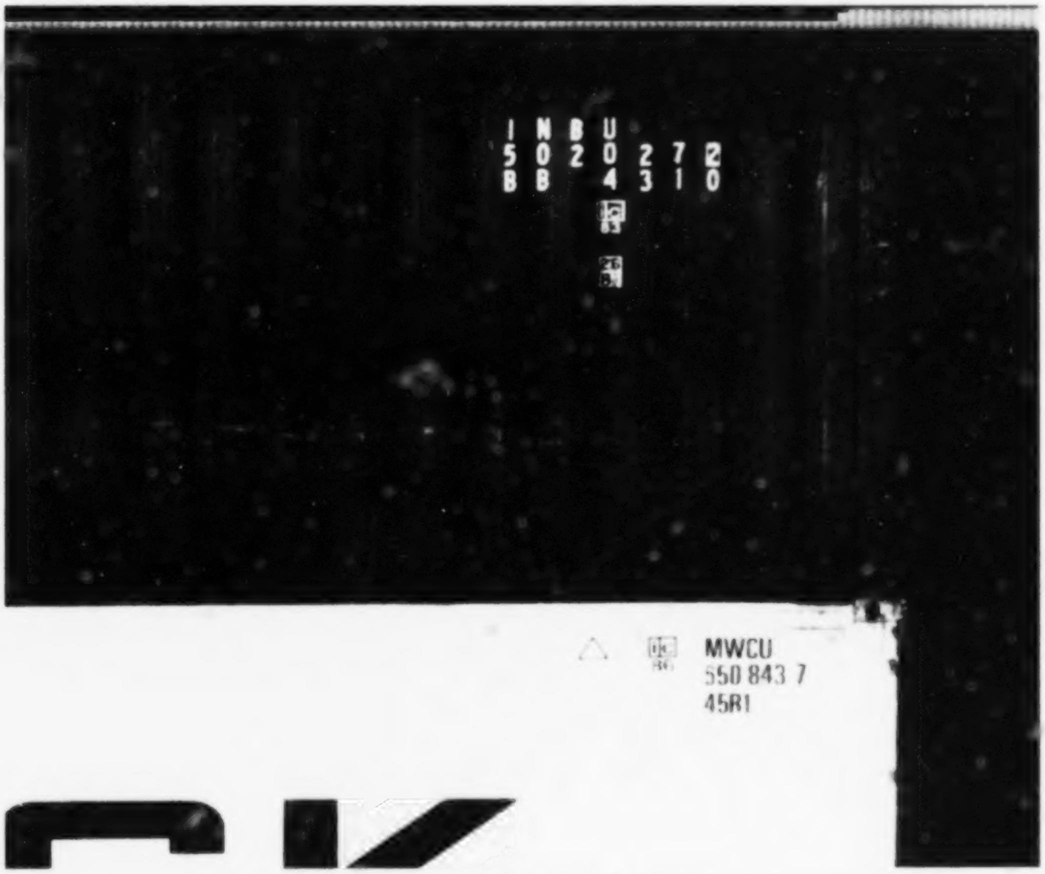
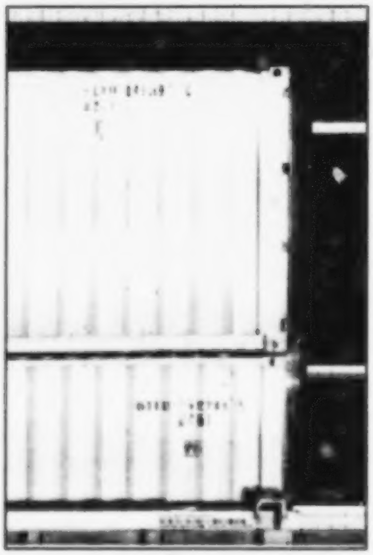


Figure 29 – Container detection

Figures 30 and 31 show an image of the start of the containers on side 1 before and after the modifications.



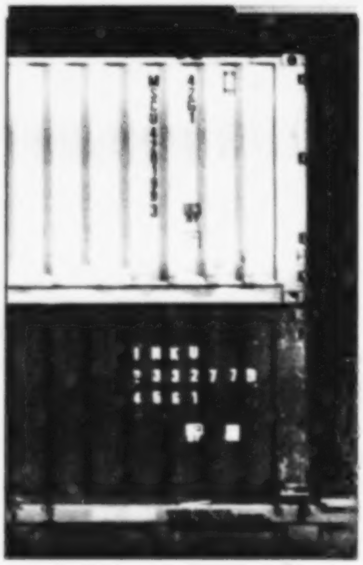
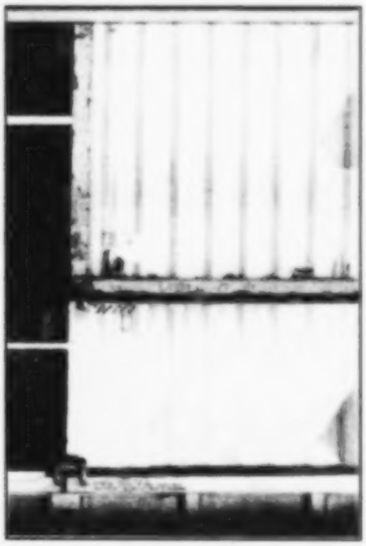


Figure 30 – Start of train before modifications **Figure 31 – Start of train after modifications**

Figures 32 and 33 show an image of the end of the containers on side 1 before and after the modifications.



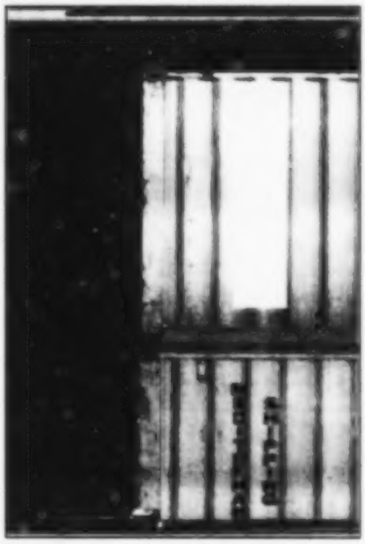


Figure 32 – End of train before modifications **Figure 33 – End of train after modifications**

4.3 Task 3 – Synzhronize AEI and LICO Programs

The move numbers could become desynchronized between the AEI software and the LICO software. When this happened, the move numbers were different in the resulting files. When a train passed, each LICO program would read its own configuration file to get the next move number. If the LICO files did not have the same move numbers, desynchronization would occur. In addition, the LICO software and the AEI software did not use the same source of information for their next move number. As a result, the LICOs and the AEI were desynchronized.

The desynchronization problem was solved by modifying the AEI and LICO software. A file containing the next move number was added to the AEI. This file is called 'nextmove.bin', and is located in the 'C:\AEI\nextmove\' directory. When a train passes, the two LICOs read this file on the AEI to get the correct move number. The programs installed on the two LICOs then have the same move number every time a train passes, even if their numbers are not the same before the train goes by. If the 'nextmove.bin' file is not available on the AEI, the LICO software will read its own configuration file to get the next move number. This move number is in the 'lico.ini' file on each LICO in the 'C:\lico\' directory. The command line that the LICO software reads is 'last-move-no'. In other words, if the LICO software cannot read the 'nextmove.bin' file on the AEI, it increments its move number by one according to the 'last_move_no' line. When it reads the AEI information again, the next move numbers are readjusted according to the 'nextmove.bin' file.

Tests were run from 7 to October 11th 2002 to check that this modification worked properly. The tests were successful and the synchronization between the AEI software and the LICO software is excellent. Nevertheless, a correction was made. When LICO1 was stopped, LICO2 did not keep operating to take the images on side 2. When a train tripped the system, the LICO2 software checked whether the clock provided by the LICO1 software was present before proceeding. CCTC made a modification so that LICO2 checks whether the clock provided by the LICO1 software is present. If the LICO2 software has not received a tick from the LICO1 software within 300 milliseconds, it starts the image recording process.

Both LICOs synchronize well with the AEI. However, a problem was noted when the AEI was out of service. The 'nextmove.bin' file could not change for each move while the LICO incremented by one each time. When the AEI returned to service, the next move was readjusted according to the 'nextmove.bin' file. A duplication of the move numbers then occurred because, while the AEI was stopped, the 'nextmove.bin' file was not incremented by one. The AEI is the heart of the system; it must be present to obtain results.

4.4 Task 4 – Upgrade AEI and LICO Platforms to a Windows-based Network

This stage of the project involved upgrading the LICOs and the AEI from the Microsoft Windows 98 operating system to Microsoft Windows 2000 Professional. The computers had to be changed because they were not compatible with Windows 2000. To be compatible, a minimum 133 MHz processor with 64 MB of RAM is recommended. The hard drive must have a minimum of 2 GB of free space to be able to install the operating system. These are the minimum installation requirements, but to have an efficient system, we installed 1 GHz Pentium III processors. Furthermore, a fast system was required in order to complete the image analysis processing within the required timeframe.

4.4.1 LICO and AEI Upgrade

The new parts purchased for the LICO1 and LICO2 machines were the motherboard, processor, RAM and CD-ROM. For the AEI, most of the parts came from the old Corail3. The three computers (LICO1, LICO2 and AEI) were upgraded with the Microsoft Windows 2000 Professional operating system for better stability and performance of the system.

A 3COM network interface card was installed in the AEI on April 23rd 2002 to replace the existing one. This modification was done in order to have the same network interface cards in all the computers. The 3COM cards provide better network performance than the old AT cards used.

Diskeeper Workstation Version 7 software was installed on the LICOs and the AEI to reduce the hard drive fragmentation caused by moving and deleting the images. The computers were tested and the Windows upgrades and various drivers were installed.

4.2.1. Corail Upgrade

Both Corails were upgraded to Pentium 4s and 1.7 GHz processors. For Corail1, only the diskette drive and the network interface card are original parts from Corail3. The other parts were all replaced by new hardware because they were not compatible with the P4 processors. The same is also true for the Corail2, whose only original parts are the diskette drive and the network interface card.

All the hardware was configured and tested at DTI's offices before being installed at POM. It was then tested to ensure that the entire system worked properly in its usual environment.

4.4.2 LICO and AEI Software Modification

CCTC modified the LICO and AEI software programs to ensure that they are compatible with the Microsoft Windows 2000 Professional operating system. The modifications were tested successfully and the LICOs now provide good performance and stability on Windows 2000.

4.4.3 Frame Grabber

The problem with the Data Translation frame grabbers was not solved when the two LICO computers were upgraded to Windows 2000. The issue involved the frequent failure of the two frame grabbers, which caused an image-pairing problem. A new version of the driver was installed on LICO1 on November 18th 2002, but the results were not conclusive. The problems were more frequent after these modifications. There were many glitches and one of the frame grabbers stopped frequently. Furthermore, the timestamps did not have the same value for both sides due to the failure of one of the frame grabbers.

Figure 34 shows a stopped frame grabber.

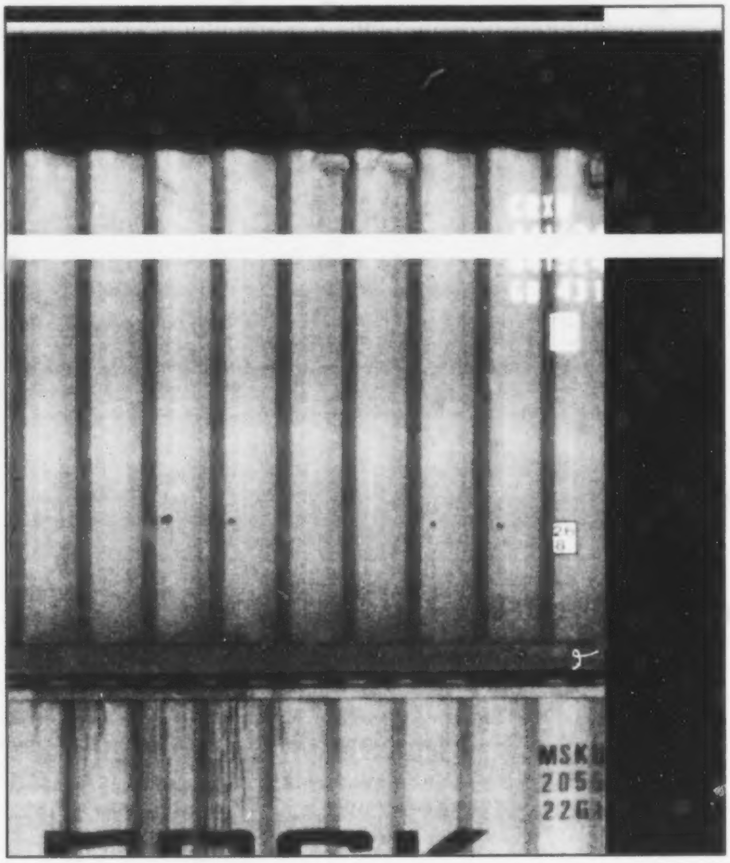
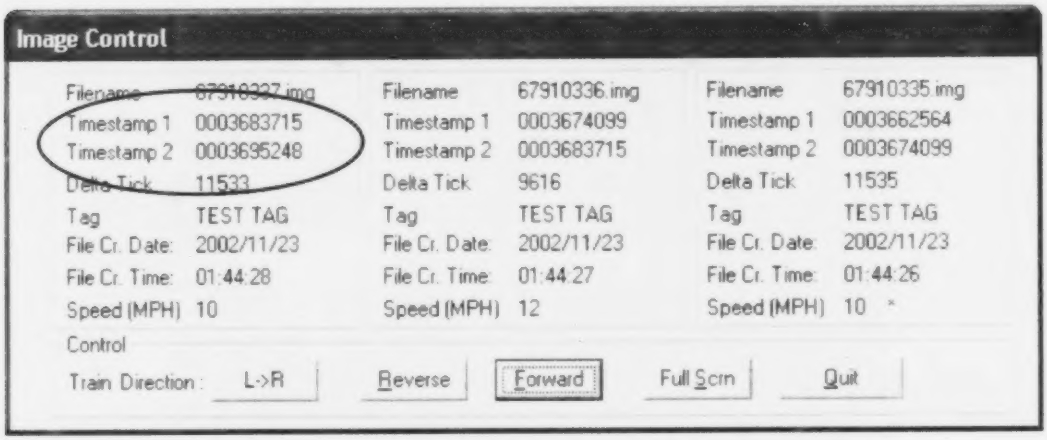


Figure 34 – Stopped frame grabber

Figure 35 shows the timestamps for side 1 and Figure 36 shows the timestamps for side 2. Table 8 shows the difference between the timestamps in Figures 35 and 36.

Table 8 – Difference between timestamps

	Side 1	Side 2	Difference
Timestamp 1	0003683715	0003679839	3876
Timestamp 2	0003695248	0003691375	3873



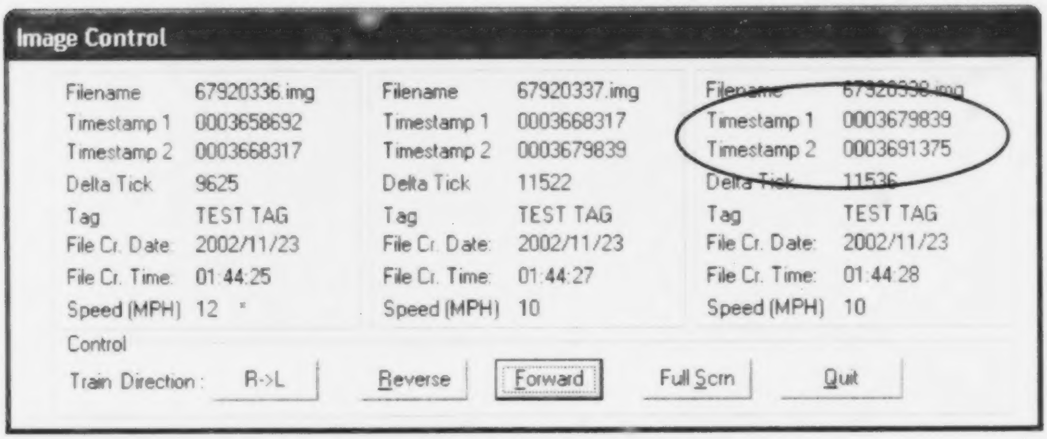
Filename 67910337.img
Timestamp 1 0003683715
Timestamp 2 0003695248
Delta Tick 11533
Tag TEST TAG
File Cr. Date: 2002/11/23
File Cr. Time: 01:44:28
Speed (MPH) 10

Filename 67910336.img
Timestamp 1 0003674099
Timestamp 2 0003683715
Delta Tick 9616
Tag TEST TAG
File Cr. Date: 2002/11/23
File Cr. Time: 01:44:27
Speed (MPH) 12

Filename 67910335.img
Timestamp 1 0003662564
Timestamp 2 0003674099
Delta Tick 11535
Tag TEST TAG
File Cr. Date: 2002/11/23
File Cr. Time: 01:44:26
Speed (MPH) 10

Control
Train Direction : L->R

Figure 35 – Timestamps, side 1



Filename 67920336.img
Timestamp 1 0003658692
Timestamp 2 0003668317
Delta Tick 9625
Tag TEST TAG
File Cr. Date 2002/11/23
File Cr. Time 01:44:25
Speed (MPH) 12

Filename 67920337.img
Timestamp 1 0003668317
Timestamp 2 0003679839
Delta Tick 11522
Tag TEST TAG
File Cr. Date: 2002/11/23
File Cr. Time: 01:44:27
Speed (MPH) 10

Filename 67920338.img
Timestamp 1 0003679839
Timestamp 2 0003691375
Delta Tick 11536
Tag TEST TAG
File Cr. Date: 2002/11/23
File Cr. Time: 01:44:28
Speed (MPH) 10

Control
Train Direction : R->L

Figure 36 – Timestamps, side 2

Figure 37 shows an example of the glitch problem in an image. Two glitches are in the container number, which can cause a character recognition error.

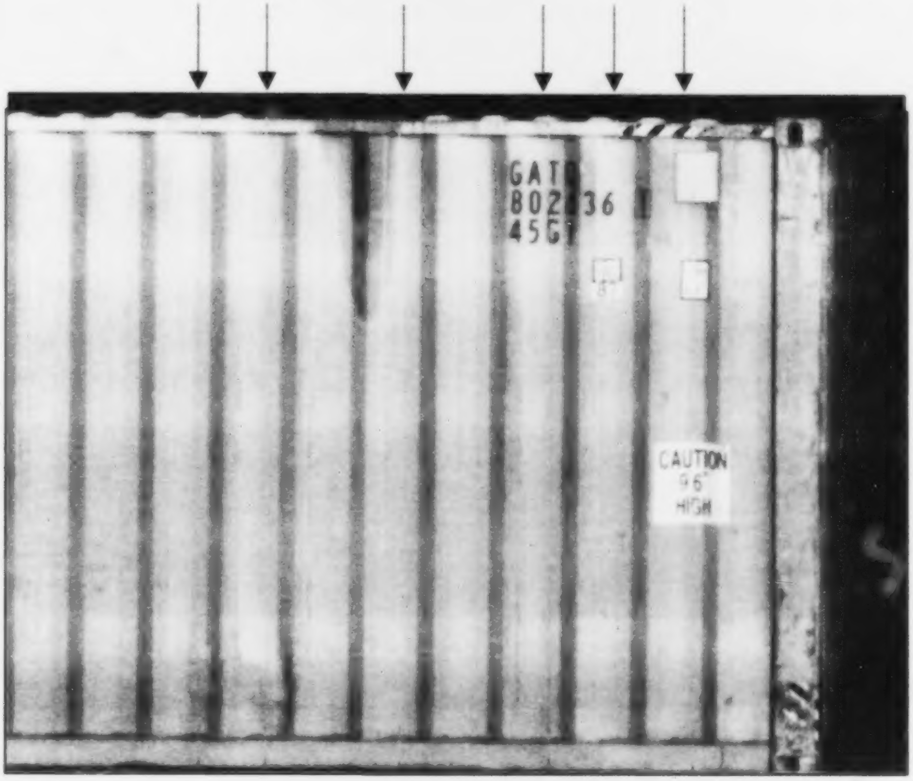


Figure 37 – Example of a glitch

A solution was found to solve these problems: the frame grabber must be replaced with the Matrox Genesis LC card.

4.5 Task 5 – Make Pairing Process More Stable

In the earlier version of INO's OCRail software, the system used the sequence number to perform the image analysis. However, when there was a problem with a frame grabber, the sequence between the two sides was not always the same. With the new version, the OCR software uses the information on the timestamps to pair the images for the two sides. The result is more reliable with the timestamps than with the sequence number since the system uses a precise timestamp for the two sides. By using this method, the OCRail software can pair the two sides correctly even if one of the frame grabbers stops capturing the images temporarily. A difference in the timestamps for side 1 and side 2 that is less than or equal to 1500 units can occur, but this spread is negligible. Note that one unit equals 1/9600 of a second. Figure 38 shows the timestamps for side 1 and Figure 39 shows the timestamps for side 2.

Table 9 – Timestamps with a difference of less than 1500 units

	Side 1	Side 2	Difference
Timestamp 1	0000126464	0000126723	-259
Timestamp 2	0000135456	0000135715	-259

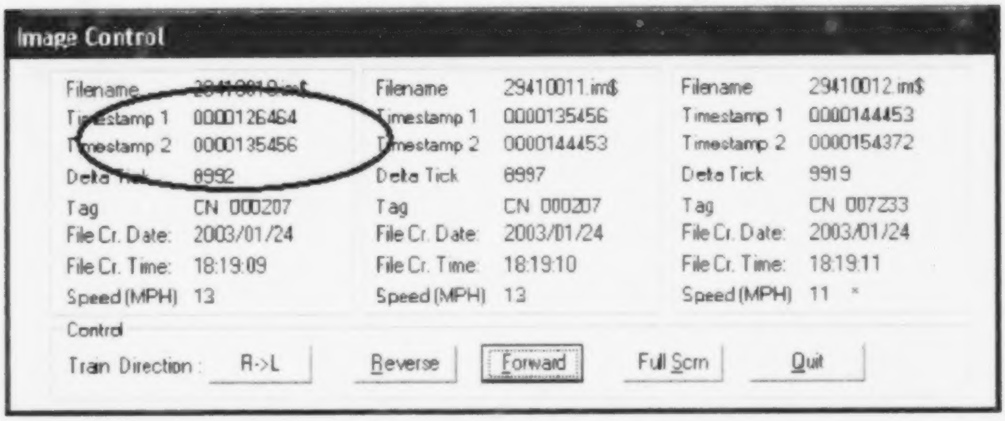


Image Control
Control
Train Direction :
R->L
Reverse
Forward
Full Scrn
Quit

Filename 29410010.im$
Timestamp 1 0000126464
Timestamp 2 0000135456
Delta Tick 8992
Tag CN 000207
File Cr. Date: 2003/01/24
File Cr. Time: 18:19:09
Speed (MPH) 13

Filename 29410011.im$
Timestamp 1 0000135456
Timestamp 2 0000144453
Delta Tick 8997
Tag CN 000207
File Cr. Date: 2003/01/24
File Cr. Time: 18:19:10
Speed (MPH) 13

Filename 29410012.im$
Timestamp 1 0000144453
Timestamp 2 0000154372
Delta Tick 9919
Tag CN 007233
File Cr. Date: 2003/01/24
File Cr. Time: 18:19:11
Speed (MPH) 11 *

Figure 38 – Timestamps for side 1

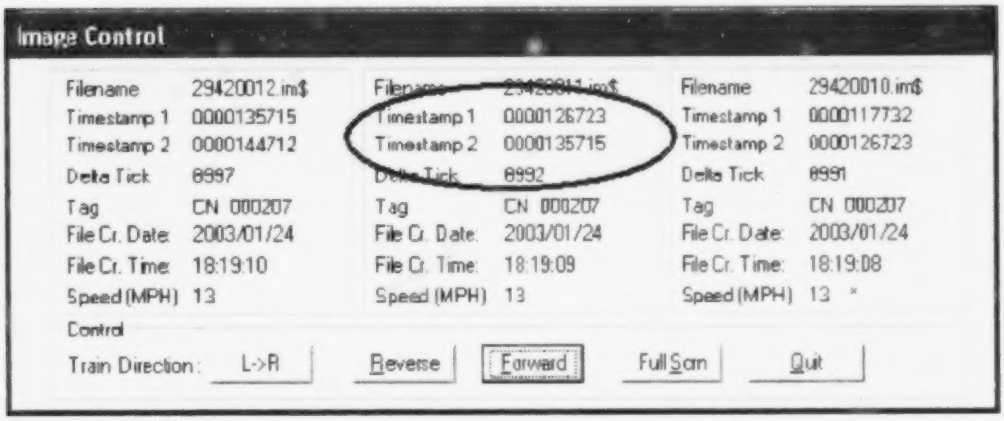


Image Control
Control
Train Direction :
L->R
Reverse
Forward
Full Scrn
Quit

Filename 29420012.im$
Timestamp 1 0000135715
Timestamp 2 0000144712
Delta Tick 8997
Tag CN 000207
File Cr. Date: 2003/01/24
File Cr. Time: 18:19:10
Speed (MPH) 13

Filename 29420011.im$
Timestamp 1 0000126723
Timestamp 2 0000135715
Delta Tick 8992
Tag CN 000207
File Cr. Date: 2003/01/24
File Cr. Time: 18:19:09
Speed (MPH) 13

Filename 29420010.im$
Timestamp 1 0000117732
Timestamp 2 0000126723
Delta Tick 8991
Tag CN 000207
File Cr. Date: 2003/01/24
File Cr. Time: 18:19:08
Speed (MPH) 13 *

Figure 39 – Timestamps for side 2

INO made a second modification to add the checksum number. In the analysis, if the OCRail cannot recognize the check digit when it compares the two sides, the Corail software will calculate it if it has enough information about the other recognized valid characters. Figure 40 shows an image of a container number with the missing checksum.

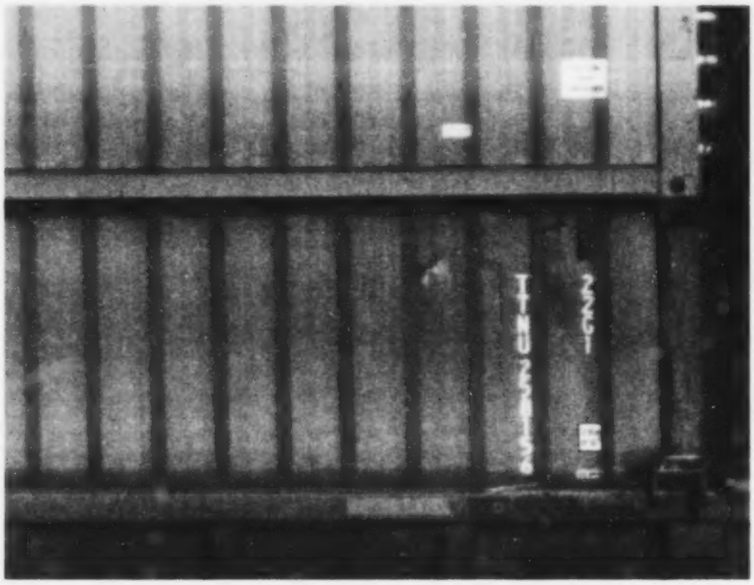
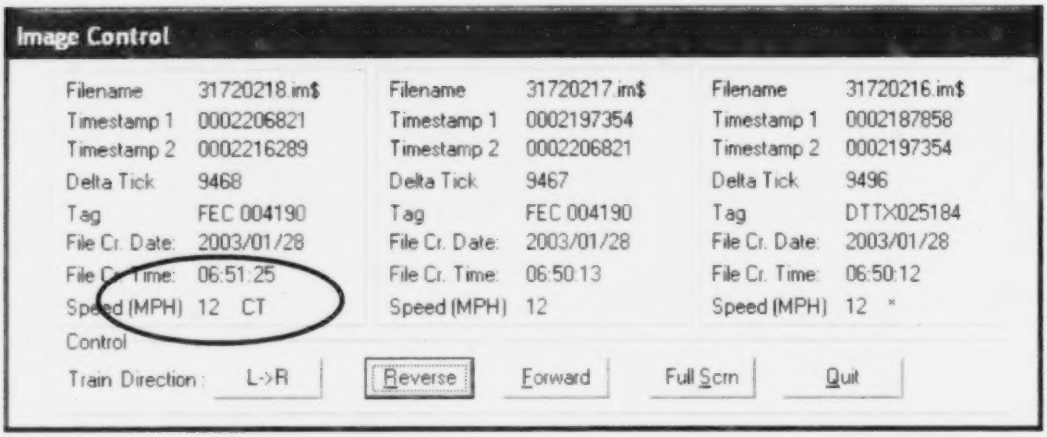


Figure 40 – Missing checksum

4.6 Task 6 – Modify LICO Software to Ensure End-of-Train Detection

When a train finished passing, the LICO software did not send a signal to the Corail software to indicate the end of the train. CCTC modified the LICO software so that it always transmits an EoT signal in the last image sent. When a train passes, there are always three images that follow the last wheel detection. If for some reason there are fewer than three images, the system adds a grey image and adds the EoT bit to this last image. If there are more than three images, the system deletes the extra ones so that there are only three images after the last wheel and modifies the last image to add the EoT bit.

After the modifications, checks were run during the preliminary tests and the ends of the trains were shown correctly on each move. The check was done using the container viewing software (viewer.exe) from CCTC. On the Image Control window (Figure 41), the last image can be seen in the Speed (MPH) field. 'CT' means that it is the end of a train.



Filename 31720218.im$
Timestamp 1 0002206821
Timestamp 2 0002216289
Delta Tick 9468
Tag FEC 004190
File Cr. Date: 2003/01/28
File Cr. Time: 06:51:25
Speed (MPH) 12 CT

Filename 31720217.im$
Timestamp 1 0002197354
Timestamp 2 0002206821
Delta Tick 9467
Tag FEC 004190
File Cr. Date: 2003/01/28
File Cr. Time: 06:50:13
Speed (MPH) 12

Filename 31720216.im$
Timestamp 1 0002187858
Timestamp 2 0002197354
Delta Tick 9496
Tag DTTX025184
File Cr. Date: 2003/01/28
File Cr. Time: 06:50:12
Speed (MPH) 12 *

Train Direction: L->R

Figure 41 – End-of-train display

4.7 Task 7 – Modify AEI Software to Generate a Results File Every Time

CCTC modified the AEI to generate a results file every time. If the system's east or west sensors detect an object without input from the centre, the system should generate a new move and create an EDI file. Tests were conducted at POM to check whether the system generated a move every time. These tests were successful.

4.8 Task 8 – Update File Containing Company Codes Used by the OCR Program

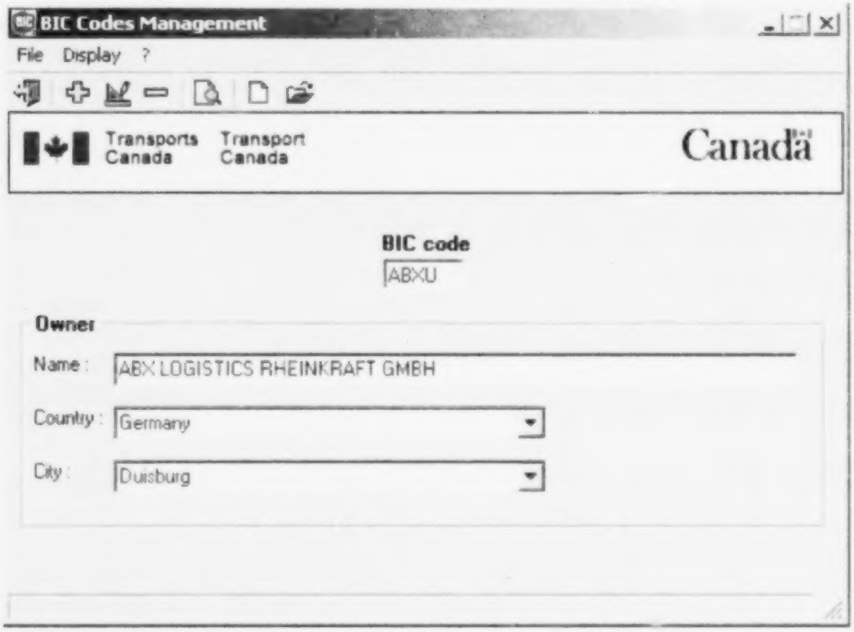
The OCR program uses a text file containing the Bank Identified Codes (BIC) that, in compliance with the ISO 6346 standard, must be present on each container. The four-letter code is validated against the contents of the text file. The software allows users to keep this file up to date manually by adding new codes and deleting inactive ones. The software is in a simple, user-friendly Graphical User Interface (GUI) format.

The BIC codes are managed on the main screen. Users can enter a BIC code, and the name of the company that owns the container is displayed, if it exists, along with the country and city of origin. All operations for the codes are accessible through small buttons on the toolbar.

The possible operations are:

- Add a new BIC code;
- Delete a BIC code;
- Change the country and/or city of origin of the owner of the container;
- Edit the name of the company that owns the container.

Figure 42 shows the GUI for the software.



BIC code: ABXU

Owner

Name: ABX LOGISTICS RHEINKRAFT GMBH

Country: Germany

City: Duisburg

Figure 42 – Graphic environment for BIC code software

A window is provided for viewing the list of all the BIC codes contained in the database. The list is sorted in alphabetical order by code. The information about the owner related to this code is also displayed in this window.

The file of results can be viewed using Microsoft Notepad.

The OCRail software uses the result file to analyse the images. This file is created using the BIC Codes Management software. Every time the database is updated, the results file must also be updated. This file is then placed in directory for the Corail software.

4.9 Task 9 – AEI/OCR System Networking Test

To ensure that the system works properly and to have the best possible transfer rate, the AT switch was fully tested with different configurations. All ports were checked with different combinations. Tests were conducted by transferring 400 files of 1 MB each. Different configurations were tried for the network interface cards by selecting automatic, semi-automatic and full duplex. The best transfer time for these tests was 53 seconds with the network interface cards configured in full duplex. Many other tests resulted in times less than one minute using a full duplex configuration and automatic selection for the cards.

At POM, different tests were conducted to check the transfer time for the following operation: copy the LICO1 file to Corail1, rename the file and then delete the file from its original location. These tests were conducted by simulating the LICO software process. The best result was 48 seconds using a network drive and the second hard drive on the Corail. This hard drive must be the master on the secondary IDE (Integrated Device Electronics) connector.

The recommendations resulting from these tests included the following:

a) Use 3COM 3C-905-TX-M network interface cards.

b) Use network interface cards in full duplex 100 MBps to ensure a good transfer time.

c) Use a second hard drive on the Corail computers to run the application.

d) One hard drive must be installed as a master on the primary IDE channel and the other one must be the master on the secondary IDE channel.

e) Keep the AT switch.

f) Use a minimum of a 1.7 GHz P4 computer for the Corails.

g) Protect the computers against power failures with two APC 1500 SMART-UPS units.

These recommendations were all accepted by TDC and implemented by DTI.

5 AEI / OCR SYSTEM PRELIMINARY TEST

Set-to-work tests or preliminary tests were conducted to finalize the installation set-up, implement final corrective measures and modifications, and prepare the system for the formal acceptance tests. These preparations were carried out for a period of four weeks prior to the formal acceptance tests to ensure that the system had achieved the specified performance in terms of accuracy and data transfer rate.

This work focused on the set-up of the actual system installed at the site. The task was crucial to ensure that the infrastructure comprising the hardware and physical installation were functioning in an optimal fashion and that all system software and hardware improvements had been implemented. These preliminary tests were necessary to verify actual system performance. DTI conducted four weeks of preliminary tests to measure the system's performance and detect any abnormalities. During these tests, it was essential that the infrastructure and necessary elements of the installed system functioned correctly and within the design specification.

To assure successful completion of the formal acceptance tests, DTI's role included the following activities:

- Plan and execute the preliminary test cases.
- Supervise and co-ordinate preliminary tests on site.
- Compile, analyse and publish results.
- Make recommendations and implement corrective measures.

5.1 Week 1 – November 3rd to 9th 2002

In the first week of tests, the frequent frame grabber problems showed that the results obtained could be greatly improved by replacing the frame grabbers with Matrox cards. In addition, glitches appeared in the images – and occasionally in a container code – and hindered analysis of the image.

During the test week from November 3rd to 9th 2002, 73 train moves were observed. Eighteen of the 73 trains had containers. All the trains were analysed.

Table 10 provides a classification of these moves for week 1.

Table 10 – Classification of observed moves

Type of train	# of trains	%
Simulation	0	0.00
Empty move	15	20.55
Locomotive only	21	28.77
Train without containers	3	4.11
Train with containers	18	24.66
Freight train	16	21.92
Total # of trains	73	100.00

Table 11 presents the information for these moves generated by the AEI station during the first week of tests.

Table 11 – Move information (week 1)

Date	Move	Move Time	Move Duration	Lead	Engine	Dir	Speed			Axle	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2002-11-03	402	04.58.56	00.02.41	CN	2454	W	8	12	10	48	5	5	932	T	Train with containers
	403	05.27.41	00.01.46	CN	2560	E	8	12	9	12	2	2	144	T	Locomotive only
	404	05.27.41	00.00.00			E	0	0	0	0	0	0	0	R	Double move problem - 403
	405	11.18.16	00.02.05	CN	7235	WR	4	7	5	4	1	1	56		Locomotive only
	406	11.23.07	00.01.15	CN	7235	WR	1	5	3	4	1	1	56	T	Locomotive only
	407	11.44.00	00.03.25	CN	7235	WR	5	12	9	64	16	16	922	TR	Freight train
	408	13.01.00	00.01.46	CN	5351	W	10	12	11	18	3	3	207	T	Locomotive only
	409	13.51.57	00.12.02	CN	5288	E	5	14	9	346	33	34	7514	T	Train with containers
	410	13.51.57	00.00.00			E	0	0	0	0	0	0	0	R	Double move problem - 409
	411	23.19.45	00.01.53	ONT	1730	W	6	8	7	12	2	3	141	T	Locomotive only
2002-11-04	412	01.44.01	00.07.12	CN	2532	E	2	9	7	166	20	19	3452	T	Train with containers
	413	01.44.01	00.00.00			E	0	0	0	0	0	0	0	R	Double move problem - 412
	414	01.51.18	00.06.58			E	2	10	7	124	11	12	3032	T	Empty move
	415	05.09.16	00.05.52	CN	2408	W	6	12	9	144	16	17	3160	T	Train with containers
	416	05.46.48	00.01.48	CN	4726	E	9	10	9	16	3	3	200	T	Locomotive only
	417	05.46.48	00.00.00			E	0	0	0	0	0	0	0	R	Double move problem - 416
	418	15.39.26	00.02.11	CN	227	WR	4	7	5	16	4	5	230	T	Train without containers
	419	15.46.21	00.03.28	CN	227	W	2	7	5	8	2	2	112		Locomotive only
	420	15.46.21	00.00.00			E	0	0	0	0	0	0	0	R	Double move problem - 419
	421	16.31.29	00.05.42	CN	7232	E	8	10	9	152	14	14	3357	T	Train with containers
	422	17.07.03	00.01.02				0	0	0	0	0	0	0	R	Empty move
	423	17.10.51	00.00.58				0	0	0	0	0	0	0	R	Empty move
	424	17.18.01	00.01.41	CN	7235	WR	3	10	7	16	4	4	220	T	Train without containers
	425	17.25.49	00.02.10	CN	7235	WR	4	9	7	4	1	2	56		Locomotive only
	426	18.59.51	00.05.58	CN	7235	WR	1	12	8	88	22	35	1293	T	Freight train
	427	19.14.18	00.01.03				8	11	0	0	0	0	0	R	Empty move
2002-11-05	428	01.02.44	00.02.13	CN	5437	W	0	0	9	42	7	2	512	T	Locomotive Only
	429	01.45.55	00.01.40	CN	5437	E	6	11	8	6	1	1	72	T	Locomotive Only
	430	01.45.55	00.00.00			E	0	0	0	0	0	0	0	R	Double move problem - 429
	431	06.57.55	00.10.53	CN	5712	W	9	10	9	292	29	161	6395	T	Train with containers
	432	07.35.27	00.01.06	CN	5420	E	0	0	9	12	2	2	144		Locomotive Only
	433	08.17.50	00.02.31			E	7	7	7	44	8	1	535	R	Empty move
	434	08.17.50	00.00.00			E	0	0	0	0	0	0	0	R	Double move problem - 433
	435	09.17.38	00.01.42			W	0	0	7	4	1	0	56	T	Locomotive Only
	436	11.14.47	00.01.42			E	2	5	11	2	1	0	26	T	Empty move
	437	11.14.47	00.00.00			E	0	0	0	0	0	0	0	R	Double move problem - 436
	438	20.41.12	00.03.24	CN	219	WR	4	10	4	20	5	5	289	T	Empty move
	439	20.58.17	00.05.39	CN	219	WR	1	9	7	72	18	31	1057	T	Freight train
2002-11-06	440	02.37.53	00.01.45	CN	219	WR	0	0	6	16	4	5	220	T	Freight train
	441	02.45.30	00.01.16				0	0	0	0	0	0	0		Simulation
	442	03.27.43	00.02.35	CN	219	W	10	11	10	36	5	26	617	T	Train with containers
	443	04.22.54	00.08.05	CN	7235	E	7	10	10	260	26	26	5683	T	Train with containers
	444	04.22.54	00.00.00			E	0	0	0	0	0	0	0	R	Double move problem - 443
	445	06.31.42	00.07.31	CN	5795	W	8	10	9	196	20	143	4413	T	Train with containers
	446	07.11.18	00.01.00	CN	2530	E	0	0	9	12	2	2	144	T	Locomotive only
	447	17.32.39	00.01.32				0	14	0	0	0	0	0	R	Empty move
	448	17.36.17	00.02.52	CN	219	WR	1	12	10	52	13	16	761	T	Freight train
	449	18.59.37	00.07.29	CN	219	WR	0	10	8	104	26	26	1519	T	Freight train
	450	19.07.08	00.22.00	CN	7235	ES	0	0	6	8	2	2	112		Freight train
	451	19.32.44	00.01.09				10	12	0	0	0	0	0	R	Empty move
2002-11-07	452	03 53 14	00 01 41	CN	219	W	0	0	11	8	2	2	112		Locomotive Only
	453	04 47 10	00 00 00				0	0	0	0	0	0	0	R	Empty move
	454	04 44 10	00 08 50	CN	7235	E	8	10	9	212	22	22	4755	T	Train with containers
	455	07 29 16	00 07 04	CN	5437	W	9	11	9	191	20	146	4292	T	Train with containers
	456	08 07 32	00 00 58	CN	5549	E	0	0	10	18	3	3	213	T	Locomotive Only
	457	10 17 15	00 01 54			E	3	9	9	36	4	3	279	T	Train with containers
	458	10 17 15	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 457
	459	11 05 31	00 02 09			W	0	0	7	16	4	4	249	T	Freight train
	460	16 37 11	00 02 20			E	10	11	7	28	6	4	450	T	Freight train
	461	16 37 11	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 460
	462	17 07 17	00 01 40			W	0	0	10	8	2	0	115	T	Locomotive Only
	463	17 55 32	00 01 23				3	11	0	0	0	0	0	R	Empty move
	464	17 59 00	00 03 50	CN	219	WR	1	11	9	76	19	21	1099	T	Freight train
	465	18 47 12	00 04 25	CN	219	WR	0	0	8	72	18	19	1057	T	Freight train
	466	18 58 08	00 01 11				0	0	0	0	0	0	0	R	Empty move
2002-11-08	467	02 16 01	00 02 42	CN	219	W	8	13	11	44	7	19	879	T	Train with containers
	468	02 48 04	00 04 06	CN	7235	E	7	10	10	89	10	10	2238	T	Train with containers
	469	02 48 04	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 468
	470	07 40 48	00 07 47	CN	5273	W	7	10	8	192	23	148	4184	T	Train with containers
	471	08 39 43	00 01 00	CN	2650	E	6	7	8	16	3	3	203	T	Locomotive only
	472	08 48 37	00 06 54			E	4	8	6	16	4	2	194	T	Freight train
	473	09 43 36	01 46 11			WR	7	11	6	8	2	0	98	T	Locomotive only
	474	12 25 46	00 01 58			W	0	0	9	12	2	1	259	T	Train without containers
	475	13 20 39	00 05 38				0	0	0	0	0	0	0	R	Empty move
	476	13 26 19	00 17 36				5	12	0	0	0	0	0	R	Empty move
	477	16 46 05	00 06 33	CN	7230	W	0	0	9	160	17	119	3636	T	Train with containers
	478	18 12 15	00 05 46	CN	235	E	1	8	7	8	2	2	112		Locomotive only
	479	18 12 15	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 478
	480	21 03 54	00 10 23	CN	219	WR	0	12	5	20	5	5	289	T	Freight train
	481	21 17 58	00 14 11	CN	219	WR	1	12	7	76	19	20	1116	TR	Freight train
	482	22 32 15	00 04 53	CN	219	WR	4	9	7	88	22	26	1286	TR	Freight train
	483	22 37 10	00 07 13	CN	219	E	0	0	8	68	17	19	994	TR	Freight train
	484	22 48 24	00 01 01				8	8	0	0	0	0	0	R	Empty move
2002-11-09	485	03 26 57	00 01 57	CN	219	W	0	0	8	8	2	2	112		Locomotive Only
	486	03 55 12	00 06 44	CN	7235	E	4	10	10	196	20	20	4177	T	Train with containers
	487	03 55 12	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 486
	488	06 52 30	00 13 27	CN	2574	W	0	0	8	216	25	123	4833	T	Train with containers
	489	07 39 25	00 01 49	CN	5800	E	6	8	7	12	2	2	148	T	Locomotive only
	490	07 39 25	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 489

Results

The success rate for all the containers was 83.84%.
Table 12 presents the OCR accuracy results for the first week of tests.

The minimum success rate that must be obtained to meet POM requirements is 80%. For week 1, the success rate for valid containers was 89.99%.

Table 12 – Accuracy rate on moves with containers (week 1)

DTI **Acceptance Tests Form**

November 3 2002 to November 9 2002

DATE	MOVE	# IMAGES		# CONT		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2002-11-03	402	67	67	18	17	81,25%	13	2	88,24%	15	1	94,12%	16	8	12	10
2002-11-03	409	504	504	197	183	69,83%	125	18	80,87%	148	14	95,63%	175	5	14	9
2002-11-04	412	233	233	100	100	74,16%	66	11	78,26%	72	8	93,00%	93	2	9	7
2002-11-04	414	209	209	92	86	67,44%	58	6	74,42%	64	6	96,51%	83	0	0	0
2002-11-04	415	224	224	88	78	74,03%	57	11	73,97%	54	15	96,15%	75	6	12	9
2002-11-04	421	223	224	96	93	71,43%	65	5	77,08%	74	0	95,70%	89	0	0	0
2002-11-05	431	469	471	127	120	66,10%	78	9	60,33%	73	6	82,50%	99	6	11	9
2002-11-06	442	64	65	21	21	57,14%	12	0	33,33%	7	0	76,19%	16	10	11	10
2002-11-06	444	380	379	152	120	57,36%	74	23	49,59%	60	31	82,50%	99	9	11	10
2002-11-06	445	306	308	118	116	59,29%	67	5	68,22%	73	11	86,21%	100	7	10	9
2002-11-07	454	338	340	114	106	70,71%	70	15	77,67%	80	11	94,34%	100	1	11	9
2002-11-07	455	303	303	124	117	67,86%	76	12	63,30%	69	15	88,89%	104	8	10	9
2002-11-08	467	67	67	12	12	36,36%	4	1	41,67%	5	0	50,00%	6	8	13	11
2002-11-08	469	147	148	57	54	73,08%	38	5	67,92%	36	4	92,59%	50	9	11	10
2002-11-08	470	295	303	125	123	65,71%	69	20	72,73%	80	15	86,18%	106	7	10	8
2002-11-08	477	277	276	103	91	61,90%	52	19	72,50%	58	23	82,42%	75	5	12	9
2002-11-09	487	315	314	130	122	64,80%	81	5	68,85%	84	8	96,72%	118	9	10	10
2002-11-09	488	354	352	96	90	75,31%	61	15	70,73%	58	14	88,89%	80	4	10	8

Move 442: Lots of containers with non standard CNRU
Move 467: Image overexposure on both sides

SUMMARY

		INVALIDITY		**SPEED**	
Total # of containers:	1770	Total # of invalid containers C1 :	182	Average min.speed :	6
Total # of valid containers :	1649	Total # of invalid containers C2 :	182	Average max. speed :	10
		Total # of invalid containers :	121	Average speed :	8
Total # of code found CAM 1:	1066	Invalidity rate C1 :	10,28%		
Total # of code found CAM 2:	1110	Invalidity rate C2 :	10,28%		
Total # of code found PoM:	1484	Global invalidity rate :	6,84%		

PoM	Mean Accuracy/all cont.	83,84%
	Mean Accuracy/valid cont.	89,99%
Cam 1	Mean Accuracy/all cont. C1	60,23%
	Mean Accuracy/valid cont. C1	67,13%
Cam 2	Mean Accuracy/all cont. C2	62,71%
	Mean Accuracy/valid cont. C2	69,90%

Table 11 presents the information for these moves generated by the AEI station during the first week of tests.

Table 11 – Move information (week 1)

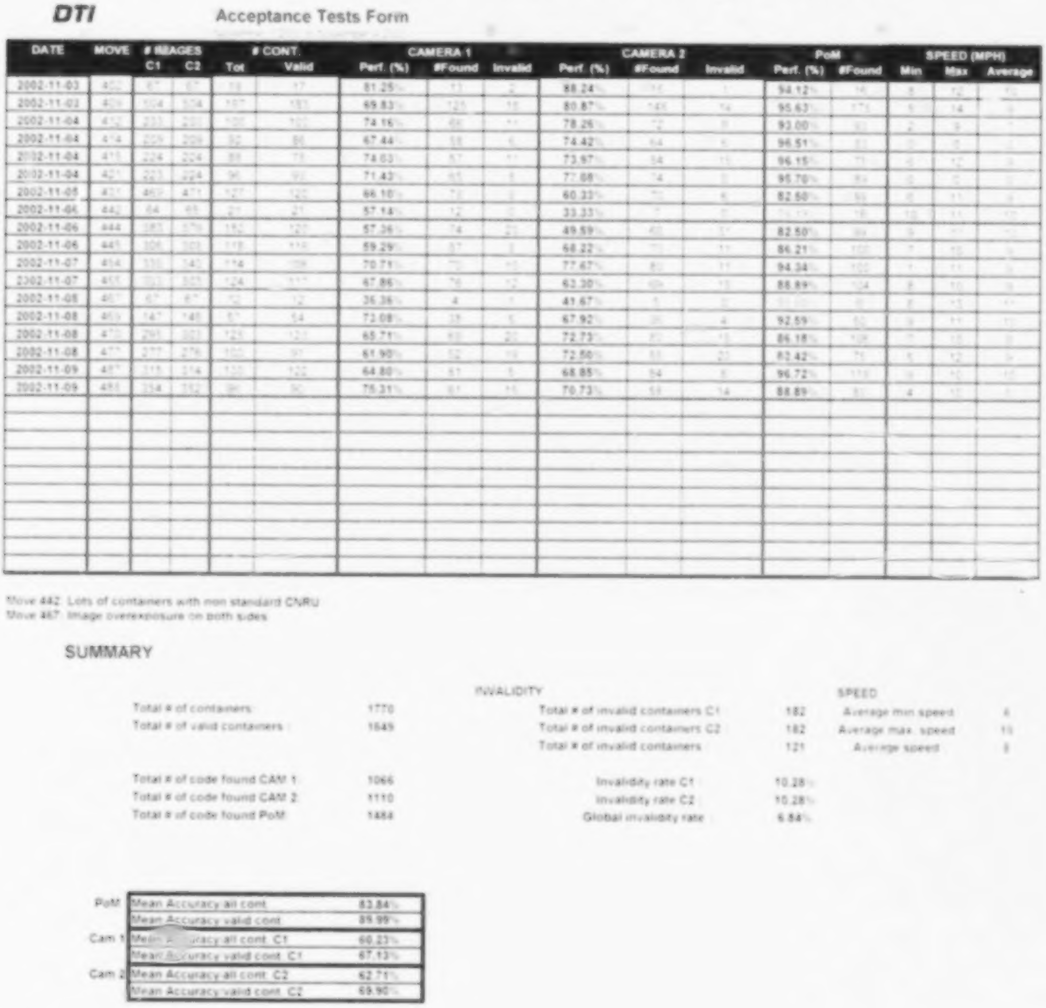
Date	Move	Move Time	Move Duration	Lead	Engine	Dir.		Speed		Axle	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2002-11-03	402	04:55:56	00:02:41	CN	2454	W	8	12	10	48	5	6	932	T	Train with containers
	403	05:27:41	00:01:46	CN	2560	E	8	12	9	12	2	2	144	T	Locomotive only
	404	05:27:41	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 403
	405	11:18:18	00:02:08	CN	7235	WR	4	7	5	4	1	1	56		Locomotive only
	406	11:23:27	00:01:18	CN	7235	WR	1	4	3	4	1	1	56	T	Locomotive only
	407	11:44:00	00:03:25	CN	7235	WR	5	12	9	64	16	16	920	TR	Freight train
	408	13:01:00	00:01:46	CN	5351	W	10	12	11	18	3	3	207	T	Locomotive only
	409	13:41:57	00:12:02	CN	5288	E	5	14	9	346	33	34	7514	T	Train with containers
	410	13:41:57	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 409
	411	21:19:45	00:01:53	ONT	1730	W	6	8	7	12	2	2	141	T	Locomotive only
2002-11-04	412	01:44:01	00:07:12	CN	2532	E	2	9	7	168	20	19	3462	T	Train with containers
	413	01:44:01	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 412
	414	01:51:16	00:06:58			E	2	11	7	124	11	12	3032	T	Empty move
	415	02:29:16	00:06:52	CN	2428	W	6	12	9	144	16	17	3160	T	Train with containers
	416	04:40:48	00:01:48	CN	4726	E	9	10	9	18	3	3	220	T	Locomotive only
	417	04:40:48	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 416
	418	15:32:26	00:02:11	CN	227	WR	4	7	5	16	4	5	230	T	Train without containers
	419	15:40:21	00:02:28	CN	227	W	3	7	6	8	2	2	112		Locomotive only
	420	15:40:21	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 419
	421	16:21:29	00:05:42	CN	7232	E	6	10	9	152	14	14	3357	T	Train with containers
	422	17:10:03	00:01:07				0	0	0	0	0	0	0	R	Empty move
	423	17:10:51	00:00:59				0	0	0	0	0	0	0	R	Empty move
	424	17:18:01	00:01:41	CN	7235	WR	3	10	7	16	4	3	230	T	Train without containers
	425	17:25:49	00:02:10	CN	7235	WR	4	9	7	4	1	2	56		Locomotive only
	426	18:55:51	00:05:58	CN	7235	WR	1	12	8	88	22	24	1262	T	Freight train
	427	19:14:16	00:01:03				6	11	0	0	0	0	0	R	Empty move
2002-11-05	428	01:02:44	00:02:11	CN	5437	W	0	0	9	42	7	6	510	T	Locomotive Only
	429	01:45:55	00:01:41	CN	5437	E	6	11	8	8	1	1	72	T	Locomotive Only
	430	01:45:55	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 429
	431	06:57:56	00:10:53	CN	5712	W	8	10	9	292	29	161	6336	T	Train with containers
	432	07:35:07	00:01:06	CN	5420	E	0	0	9	12	2	2	144		Locomotive Only
	433	08:17:50	00:00:11			E	7	7	7	44	8	1	535	R	Empty move
	434	08:17:50	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 433
	435	09:17:38	00:01:42			W	0	0	7	4	1	0	56	T	Locomotive Only
	436	11:14:47	00:01:42			E	2	6	11	2	1	0	28	T	Empty move
	437	11:14:47	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 436
	438	20:41:12	00:03:24	CN	219	WR	4	10	4	20	5	5	289	T	Empty move
	439	20:56:17	00:05:39	CN	219	WR	1	8	7	72	18	21	1067	T	Freight train
2002-11-06	440	02:17:53	00:01:45	CN	219	WR	0	0	8	16	4	4	220	T	Freight train
	441	02:45:30	00:01:16				0	0	0	0	0	0	0		Simulation
	442	03:07:41	00:02:35	CN	219	W	10	11	10	36	6	24	617	T	Train with containers
	443	04:22:54	00:08:06	CN	7235	E	7	10	10	280	28	24	5683	T	Train with containers
	444	04:22:54	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 443
	445	06:51:42	00:07:21	CN	5795	W	8	12	9	196	20	143	4412	T	Train with containers
	446	07:11:18	00:01:00	CN	2530	E	0	0	8	12	2	2	144	T	Locomotive only
	447	17:02:39	00:01:32				0	14	0	0	0	0	0	R	Empty move
	448	17:06:17	00:02:52	CN	219	WR	1	12	10	52	13	16	781	T	Freight train
	449	18:50:37	00:07:29	CN	219	WR	0	10	8	104	26	28	1519	T	Freight train
	450	19:07:08	00:22:00	CN	7235	ES	0	0	8	8	2	2	112		Freight train
	451	19:10:44	00:01:09				10	12	0	0	0	0	0	R	Empty move
2002-11-07	452	03:52:14	00:01:41	CN	219	W	0	0	11	8	2	2	112		Locomotive Only
	453	04:47:10	00:00:00				0	0	0	0	0	0	0	R	Empty move
	454	04:44:10	00:08:50	CN	7235	E	8	10	9	272	22	22	4783	T	Train with containers
	455	07:29:10	00:07:04	CN	5417	W	9	11	9	197	20	140	4292	T	Train with containers
	456	08:07:32	00:00:58	CN	5549	E	0	0	10	18	3	3	213	T	Locomotive Only
	457	10:17:15	00:01:54			E	3	9	9	36	4	5	279	T	Train with containers
	458	10:17:15	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 457
	459	11:05:31	00:02:09			W	0	0	7	16	4	4	249	T	Freight train
	460	16:37:11	00:02:00			E	10	11	7	28	5	4	450	T	Freight train
	461	16:37:11	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 460
	462	17:07:17	00:01:40			W	0	0	10	8	2	0	119	T	Locomotive Only
	463	17:48:37	00:01:23				3	11	0	0	0	0	0	R	Empty move
	464	17:59:00	00:03:50	CN	219	WR	1	11	9	76	19	21	1094	T	Freight train
	465	18:41:12	00:04:25	CN	219	WR	0	0	8	72	18	19	1057	T	Freight train
	466	18:58:09	00:01:11				0	0	0	0	0	0	0	R	Empty move
2002-11-08	467	02:10:01	00:02:40	CN	219	W	8	12	11	44	7	19	679	T	Train with containers
	468	02:48:04	00:04:36	CN	7235	E	7	10	10	89	10	10	2238	T	Train with containers
	469	02:48:04	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 468
	470	07:40:48	00:07:47	CN	5273	W	7	10	9	192	20	148	4184	T	Train with containers
	471	08:09:43	00:01:00	CN	2650	E	6	7	8	18	3	3	203	T	Locomotive only
	472	08:48:37	00:06:54			E	4	8	6	12	4	3	194	T	Freight train
	473	09:43:38	01:46:11			WR	7	11	6	8	2	0	97	T	Locomotive only
	474	12:25:46	00:01:58			W	0	0	9	12	2	1	154	T	Train without containers
	475	11:00:39	00:08:38				0	0	0	0	0	0	0	R	Empty move
	476	13:28:19	00:17:38				5	12	0	0	0	0	0	R	Empty move
	477	16:46:25	00:06:31	CN	7232	W	0	0	9	160	17	115	3635	T	Train with containers
	478	19:12:15	00:25:46	CN	338	E	1	6	7	8	2	2	112		Locomotive only
	479	19:12:15	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 478
	480	21:05:54	00:10:20	CN	219	WR	0	12	5	20	5	5	289	T	Freight train
	481	21:17:58	00:14:11	CN	219	WR	1	12	7	72	19	20	1118	TR	Freight train
	482	22:30:15	00:04:13	CN	219	WR	4	9	7	88	22	26	1284	TR	Freight train
	483	22:37:10	00:01:13	CN	219	E	0	0	8	68	17	19	994	TR	Freight train
	484	22:48:24	00:01:01				8	8	0	0	0	0	0	R	Empty move
2002-11-09	485	03:25:37	00:01:57	CN	219	W	0	0	8	8	2	2	112		Locomotive Only
	486	03:55:12	00:26:44	CN	7235	E	4	10	10	196	20	20	4177	T	Train with containers
	487	03:55:12	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 486
	488	06:50:30	00:13:27	CN	2674	W	0	0	8	218	26	123	4833	T	Train with containers
	489	07:29:25	00:01:49	CN	5800	E	0	6	7	12	2	2	148	T	Locomotive only
	490	07:29:25	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 489

Results

The success rate for all the containers was 83.84%.
Table 12 presents the OCR accuracy results for the first week of tests.

The minimum success rate that must be obtained to meet POM requirements is 80%. For week 1, the success rate for valid containers was 89.99%.

Table 12 – Accuracy rate on moves with containers (week 1)



DTI Acceptance Tests Form

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2002-11-03	402	67	67	18	17	81.25%	11	2	88.24%	[illegible]	1	94.12%	16	8	12	10
2002-11-03	409	504	504	157	151	69.83%	120	15	80.87%	148	14	95.63%	171	5	14	9
2002-11-04	412	233	233	108	100	74.16%	66	11	78.26%	72	8	93.00%	93	2	9	7
2002-11-04	414	209	209	92	86	67.44%	58	6	74.42%	64	6	96.51%	83	[illegible]	[illegible]	[illegible]
2002-11-04	415	224	224	88	78	74.03%	57	11	73.97%	54	15	96.15%	75	6	12	9
2002-11-04	421	223	224	96	93	71.43%	65	1	77.08%	74	0	95.70%	89	[illegible]	[illegible]	[illegible]
2002-11-05	431	469	471	127	120	66.10%	78	3	60.33%	73	6	82.50%	99	6	11	9
2002-11-06	442	64	65	21	21	57.14%	12	0	33.33%	7	0	[illegible]	16	10	11	10
2002-11-06	444	383	379	152	120	57.36%	74	23	49.59%	60	31	82.50%	99	9	17	10
2002-11-06	445	306	303	118	114	59.29%	67	3	68.22%	73	11	86.21%	100	7	10	9
2002-11-07	454	330	340	114	109	70.71%	70	15	77.67%	80	11	94.34%	100	7	11	9
2002-11-07	455	303	303	124	117	67.86%	76	12	63.30%	69	15	88.89%	104	8	10	9
2002-11-08	467	67	67	12	12	36.36%	4	1	41.67%	5	0	[illegible]	8	8	13	11
2002-11-08	469	147	148	57	54	73.08%	38	5	67.92%	36	4	92.59%	50	9	11	10
2002-11-08	470	291	303	123	121	65.71%	69	20	72.73%	80	13	86.18%	106	7	10	8
2002-11-08	477	277	276	100	91	61.90%	52	16	72.50%	58	20	82.42%	75	5	12	9
2002-11-09	487	315	314	130	122	64.80%	81	5	68.85%	84	8	96.72%	118	8	10	10
2002-11-09	488	234	232	96	90	75.31%	61	15	70.73%	58	14	88.89%	80	4	10	7

Move 442: Lots of containers with non standard CNRU
Move 467: Image overexposure on both sides

SUMMARY

Total # of containers:	1770
Total # of valid containers :	1649
Total # of code found CAM 1 :	1066
Total # of code found CAM 2 :	1110
Total # of code found PoM :	1484

INVALIDITY

Total # of invalid containers C1 :	182
Total # of invalid containers C2 :	182
Total # of invalid containers :	121
Invalidity rate C1 :	10.28%
Invalidity rate C2 :	10.28%
Global invalidity rate :	6.84%

SPEED

Average min speed :	6
Average max. speed :	11
Average speed :	9

PoM	Mean Accuracy all cont.	83.84%
	Mean Accuracy valid cont.	89.99%
Cam 1	Mean Accuracy all cont. C1	60.23%
	Mean Accuracy valid cont. C1	67.13%
Cam 2	Mean Accuracy all cont. C2	62.71%
	Mean Accuracy valid cont. C2	69.90%

Modifications

Modifications had to be made to solve the following problems:

1) Failure of the frame grabbers
A sequence of images would be missing on one of the sides, depending on which frame grabber failed. The frame grabbers had to be changed to solve this frequent failure problem. The new frame grabber chosen was the Matrox Genesis-LC 3000 card, based on the recommendation of INO, which used this technology with success. The Matrox card was installed on the LICO1 and LICO2 at POM on January 16th 2003 by CCTC.

2) Glitch on the images
Glitches were present on the images and hindered character recognition. The LININT boards on the LICO1 and LICO2 had to be checked because some components appeared to be faulty. The LININT master was changed on December 13th 2002 and the LININT slave components were replaced on January 16th 2003 with the old LININT master components.
There were two major types of problems with the image analysis:

- Lines missing on one or both sides of the convoy of containers (Figure 43) is resulted in a loss of the images for part of a container or for many containers. The reading of the ISO code of the container, as well as the positioning of its end, became impossible, which results in a bad pairing of the codes on both sides of the containers during the last processing of the OCR program.

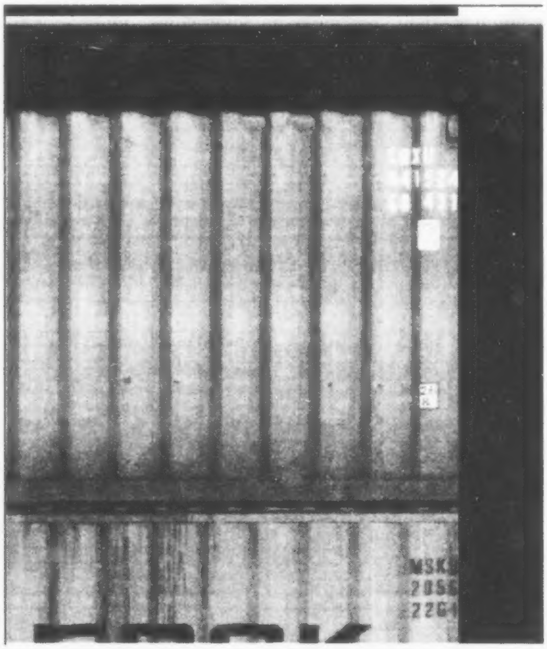


Figure 43- Failure of the frame grabbers

- Image lines with pixels that start with a 1-to-12-pixels downward shift (Figure 44), this resulted in a modification of the numbers and letters of the ISO code written on the container, which made the interpretation less precise, thus reducing the OCR program efficiency.

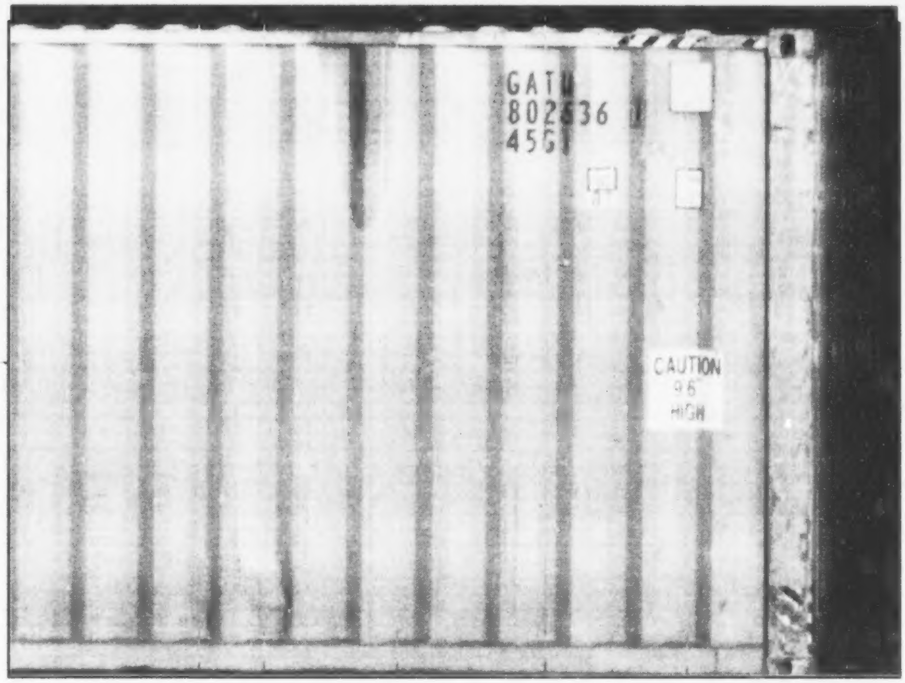


Figure 44 – Glitches on the image

3) *Difference between the timestamps for the two sides*
The timestamps for the two sides showed a difference of more than 1,500 units. Changing the Matrox cards and the LININT boards solved the problem.

5.2 Week 2 – February 23rd to March 1st 2003

The problems encountered in the first week were not present during this week of tests. The failure of the frame grabbers, the glitches on the images and the difference between the timestamps were solved before the second week of tests started.

In week 2, some minor adjustments were done, such as aligning a target and adjusting the intensity.

During the test week from February 23rd to March 1st 2003, 64 train moves were observed. Eleven of the 64 trains had containers. All the trains were analysed by DTI.

Table 13 provides a classification of these moves for week 2.

Table 13 – Classification of observed moves (week 2)

Type of train	# of trains	%
Simulation	2	3.13
Empty move	18	28.13
Locomotive only	17	26.56
Train without containers	0	0.00
Train with containers	11	17.19
Freight train	16	25.00
Total # of trains	64	100.00

Table 14 presents the information for these moves generated by the AEI station during the second week of tests.

Table 14 – Move information (week 2)

Date	Move	Move Time	Move Duration	Lead	Engine	Dir.	Speed			Axle	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2003-02-23	594	12:27:30	00:01:38				0	0	0	0	0	0	0	R	Empty move
	595	14:34:33	00:03:20				0	0	0	0	0	0	0	R	Empty move
	596	14:38:53	00:02:53				0	0	0	0	0	0	0	R	Empty move
2003-02-24	597	13:50:18	02:08:54				0	0	0	12	1	1	285	TR	Locomotive only
	598	17:00:48	00:03:18				0	0	0	0	0	0	0	R	Empty move
	599	17:16:46	00:01:11				0	0	0	0	0	0	0	R	Empty move
	600	18:46:53	00:01:30				0	0	0	0	0	0	0	R	Empty move
	601	19:16:08	00:05:15	CN	259	WR	2	13	9	92	23	25	1349	T	Freight Train
	602	22:17:23	00:07:44	CN	259	WR	1	9	6	100	25	35	1467	T	Freight Train
	603	22:27:37	00:02:21	CN	259	WR	1	6	3	8	2	2	112	T	Locomotive only
	604	22:44:43	00:17:02	CN	7208	WR	1	13	9	340	33	213	7681	T	Train with containers
	605	23:01:51	00:00:00				0	0	0	0	0	0	0	R	Empty move
2003-02-25	606	01:30:58	00:01:50	CN	7247	E	9	10	9	12	3	3	167	T	Locomotive only
	607	01:30:58	00:00:00				0	0	0	0	0	0	0		Double move problem - 606
	608	07:52:36	00:02:11			E	5	8	7	24	6	4	338	T	Locomotive only
	609	07:52:36	00:00:00				0	0	0	0	0	0	0	R	Empty move
	610	09:04:24	04:59:01			W	4	7	6	20	5	4	312	T	Freight Train
	611	16:49:30	00:06:37	CN	9468	W	6	11	8	150	15	95	3262	T	Train with containers
	612	18:04:21	00:02:52	CN	259	WR	3	10	6	12	3	3	171	T	Freight Train
	613	18:21:54	00:04:40	CN	259	WR	3	12	9	80	20	22	1171	T	Freight Train
	614	20:14:10	00:05:01	CN	259	WR	3	9	6	52	13	13	761	T	Freight Train
	615	20:20:15	00:01:22				0	0	0	0	0	0	0	R	Empty move
	616	22:19:44	00:20:54	CN	2614	E	0	12	7	346	35	90	7301	T	Train with containers
2003-02-26	617	05:58:34	00:05:15	CN	259	W	10	12	11	136	15	102	3045	T	Train with containers
	618	06:36:27	00:01:03	CN	7249	E	9	10	9	8	2	2	112	T	Locomotive only
	619	11:43:28	00:16:48				0	0	0	12	1	1	285	TR	Locomotive only
	620	17:50:50	00:02:36			WR	2	4	3	1	1	0	13	T	Locomotive only
	621	18:11:27	00:05:19	CN	259	WR	3	11	9	88	22	22	1299	T	Freight Train
	622	19:32:53	00:08:53	CN	259	WR	1	13	7	128	32	33	1877	T	Freight Train
	623	19:32:53	00:00:00				0	0	0	0	0	0	0		Double move problem - 622
	624	19:46:25	00:04:08			WR	1	10	7	30	8	7	430	T	Locomotive only
	625	19:55:21	00:00:00				0	0	0	0	0	0	0	R	Empty move
	626	19:57:19	00:01:15	CN	259	WR	2	10	6	8	2	2	112	T	Locomotive only
2003-02-27	627	03:28:57	00:01:49	CN	7017	W	11	11	11	12	3	3	171		Locomotive only
	628	04:21:21	00:20:32	CN	4730	E	4	11	8	432	38	47	10382	T	Train with containers
	629	06:46:48	00:02:11			E	7	9	8	28	7	5	400	T	Freight Train
	630	06:46:48	00:00:00				0	0	0	0	0	0	0		Double move problem - 629
	631	09:01:08	00:02:16			W	9	10	9	32	8	6	486	T	Freight Train
	632	18:17:14	00:02:01	CN	259	WR	2	11	7	12	3	3	171	T	Freight Train
	633	18:32:00	00:04:17	CN	259	WR	2	13	9	76	19	20	1112	TR	Freight Train
	634	21:13:13	00:12:53	CN	259	WR	1	8	5	68	17	17	998	T	Freight Train
	635	21:38:41	00:03:04				0	0	0	0	0	0	0	R	Empty move
	636	22:17:06	00:05:52	CN	7200	W	9	12	10	166	16	121	3544	T	Train with containers
	637	23:18:05	00:08:09	CN	5055	E	7	11	9	250	28	26	5486	TR	Train with containers
	638	23:18:05	00:00:00				0	0	0	0	0	0	0		Double move problem - 637
2003-02-28	639	01:55:57	00:01:53	CN	5055	W	10	11	10	10	2	2	121	T	Locomotive only
	640	03:32:15	00:08:40	CN	7200	E	6	11	8	270	28	49	6008	T	Train with containers
	641	07:54:00	00:50:33				0	0	0	12	1	1	285	TR	Locomotive only
	642	08:54:57	00:01:33				0	0	0	0	0	0	0	R	Empty move
	643	09:06:15	00:00:36				0	0	0	0	0	0	0	R	Empty move
	644	09:07:36	00:01:33				0	0	0	0	0	0	0	R	Empty move
	645	09:11:56	00:00:43			E	30	30	30	24	6	6	335		Simulation
	646	09:12:55	00:00:43			E	30	30	30	24	6	6	335		Simulation
	647	09:14:16	00:19:40	MPEX	7462	E	1	2	2	6	1	1	66	T	Locomotive only
	648	09:39:14	00:05:38				0	0	0	0	0	0	0	R	Empty move
	649	09:47:54	00:01:48			W	3	3	3	2	1	0	23	T	Locomotive only
	650	11:42:36	00:06:08			E	2	2	2	2	1	0	20	T	Locomotive only
	651	11:42:36	00:00:00				0	0	0	0	0	0	0		Double move problem - 650
	652	15:30:40	00:05:50			E	6	7	7	8	2	0	102	T	Locomotive only
	653	15:30:40	00:00:00				0	0	0	0	0	0	0		Double move problem - 652
	654	15:57:44	00:02:16			W	7	11	9	28	7	5	410	T	Freight Train
	655	16:33:02	00:01:40				0	0	0	0	0	0	0	R	Empty move
	656	16:54:35	00:04:06	CN	7249	WR	5	12	9	76	19	20	1112	T	Freight Train
	657	17:54:24	00:04:49	CN	7249	WR	2	14	8	72	18	18	1053	T	Freight Train
	658	18:00:27	00:01:18				0	0	0	0	0	0	0	R	Empty move
2003-03-01	659	04:15:05	00:11:55	CN	7249	W	2	12	9	288	32	214	7429	T	Train with containers
	660	04:57:58	00:01:45	CN	259	E	9	10	10	8	2	2	112	T	Locomotive only
	661	04:57:58	00:00:00				0	0	0	0	0	0	0	0	Double move problem - 660
	662	08:33:06	00:01:39				0	0	0	0	0	0	0	R	Empty move
	663	08:33:06	00:00:00				0	0	0	0	0	0	0		Double move problem - 662
	664	14:23:30	00:12:25	CN	5663	W	1	11	8	254	26	177	5588	T	Train with containers
	665	15:53:17	00:05:09	CN	5662	E	5	8	6	118	14	19	3281	T	Train with containers

Table 14 presents the information for these moves generated by the AEI station during the second week of tests.

Table 14 – Move information (week 2)

Date	Move	Move Time	Move Duration	Lead	Engine	Dir.	Speed			Axle	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2003-02-23	594	12:27:30	00:01:38				0	0	0	0	0	0	0	R	Empty move
	595	14:24:32	00:03:20				0	0	0	0	0	0	0	R	Empty move
	596	14:38:10	00:02:53				0	0	0	0	0	0	0	R	Empty move
2003-02-24	597	13:50:18	02:06:54				0	0	0	12	1	1	285	TR	Locomotive only
	598	17:00:48	00:02:18				0	0	0	0	0	0	0	R	Empty move
	599	17:16:46	00:01:11				0	0	0	0	0	0	0	R	Empty move
	600	18:46:52	00:01:30				0	0	0	0	0	0	0	R	Empty move
	601	19:16:06	00:05:18	CN	250	WB	2	11	6	94	22	25	1349	T	Freight Train
	602	22:17:22	00:07:44	CN	250	WB	1	4	3	120	28	33	1467	T	Freight Train
	603	22:27:27	00:00:21	CN	259	WB	1	4	3	6	1	2	112	T	Locomotive only
	604	22:44:42	00:17:02	CN	7206	WB	1	11	9	341	20	212	7651	T	Train with containers
	605	23:01:51	00:00:00				0	0	0	0	0	0	0	R	Empty move
2003-02-25	606	01:30:58	00:01:52	CN	7247	E	3	10	8	12	3	2	167	T	Locomotive only
	607	01:30:58	00:00:00				0	0	0	0	0	0	0		Double move problem : 606
	608	07:52:36	00:02:11			E	2	5	7	24	6	4	335	T	Locomotive only
	609	07:52:38	00:00:00				0	0	0	0	0	0	0	R	Empty move
	610	09:04:24	04:14:01			W	4	7	6	30	4	4	310	T	Freight Train
	611	19:49:30	00:06:27	CN	6490	W	8	11	9	140	15	24	1395	T	Train with containers
	612	19:54:21	00:02:51	CN	250	WB	2	12	8	12	3	3	171	T	Freight Train
	613	19:21:14	00:04:40	CN	250	WB	3	12	8	92	22	27	1171	T	Freight Train
	614	20:14:10	00:05:51	CN	255	WB	2	9	7	52	14	22	751	T	Freight Train
	615	20:20:15	00:01:21				0	0	0	0	0	0	0	R	Empty move
	616	22:19:44	00:20:54	CN	2814	E	2	12	7	344	55	90	7301	T	Train with containers
2003-02-26	617	05:56:34	00:05:16	CN	259	W	10	12	11	136	16	102	3045	T	Train with containers
	618	08:06:27	00:01:07	CN	7249	E	2	10	2	8	2	2	112	T	Locomotive only
	619	11:42:26	00:16:48				0	5	3	12	1	1	285	TR	Locomotive only
	620	17:50:50	00:02:36			WB	2	4	3	1	1	1	12	T	Locomotive only
	621	18:11:27	00:06:16	CN	259	WB	3	11	8	86	22	22	1299	T	Freight Train
	622	19:32:51	00:09:53	CN	250	WB	1	10	7	129	32	33	1877	T	Freight Train
	623	19:32:51	00:00:00				0	0	0	0	0	0	0		Double move problem : 622
	624	19:48:29	00:04:09			WB	1	10	7	30	6	7	435	T	Locomotive only
	625	19:55:21	00:00:00				0	0	0	0	0	0	0	R	Empty move
	626	19:57:19	00:01:11	CN	259	WB	2	10	8	8	2	2	112	T	Locomotive only
2003-02-27	627	03:28:57	00:01:49	CN	7017	W	11	11	11	12	3	2	171		Locomotive only
	628	04:21:21	00:20:32	CN	4730	E	4	11	9	412	18	47	10382	T	Train with containers
	629	05:46:48	00:02:11			E	7	8	8	21	7	6	400	T	Freight Train
	630	05:46:48	00:00:00				0	0	0	0	0	0	0		Double move problem : 629
	631	09:01:08	00:02:16			W	8	10	9	30	8	6	498	T	Freight Train
	632	18:17:14	00:02:01	CN	259	WB	2	11	7	12	3	1	171	T	Freight Train
	633	18:32:06	00:04:17	CN	259	WB	2	13	9	75	19	20	1112	TR	Freight Train
	634	21:11:11	00:12:43	CN	259	WB	1	8	6	66	17	17	968	T	Freight Train
	635	21:38:41	00:03:04				0	0	0	0	0	0	0	R	Empty move
	636	22:17:06	00:08:52	CN	7290	W	8	12	10	166	16	121	3544	T	Train with containers
	637	23:18:05	00:08:00	CN	5055	E	7	11	9	250	28	28	5498	TR	Train with containers
	638	23:18:05	00:00:00				0	0	0	0	0	0	0		Double move problem : 637
2003-02-28	639	01:56:57	00:01:53	CN	5055	W	10	11	10	10	2	2	121	T	Locomotive only
	640	02:02:19	00:08:40	CN	7200	E	5	11	8	270	28	43	6008	T	Train with containers
	641	07:54:00	00:50:33				0	0	0	12	1	1	285	TR	Locomotive only
	642	08:54:57	00:01:33				0	0	0	0	0	0	0	R	Empty move
	643	09:06:15	00:00:36				0	0	0	0	0	0	0	R	Empty move
	644	09:07:36	00:01:33				0	0	0	0	0	0	0	R	Empty move
	645	09:11:56	00:00:43			E	20	10	20	24	6	6	335		Simulation
	646	09:12:55	00:00:43			E	20	20	20	24	6	6	335		Simulation
	647	09:14:16	00:19:40	MPEX	7462	E	1	2	2	6	1	1	66	T	Locomotive only
	648	09:29:14	00:05:38				0	0	0	0	1	0	0	R	Empty move
	649	09:47:54	00:01:48			W	3	3	3	2	1	0	21	T	Locomotive only
	650	11:42:26	00:06:08			E	2	2	2	2	1	0	20	T	Locomotive only
	651	11:42:38	00:00:00				0	0	0	0	0	0	0		Double move problem : 650
	652	15:30:40	00:05:50			E	6	7	7	8	2	2	102	T	Locomotive only
	653	15:30:40	00:00:00				0	0	0	0	0	0	0		Double move problem : 652
	654	15:57:44	00:02:16			W	7	11	9	28	7	5	412	T	Freight Train
	655	16:33:02	00:01:40				0	0	0	0	0	0	0	R	Empty move
	656	16:54:35	00:04:06	CN	7249	WB	5	12	9	76	19	20	1112	T	Freight Train
	657	17:54:24	00:04:49	CN	7249	WB	2	14	8	72	18	18	1062	T	Freight Train
	658	18:00:27	00:01:18				0	0	0	0	0	0	0	R	Empty move
2003-03-01	659	04:15:05	00:11:55	CN	7249	W	2	12	9	288	37	214	7429	T	Train with containers
	660	04:57:58	00:01:45	CN	259	E	9	10	10	8	2	2	112	T	Locomotive only
	661	04:57:58	00:00:00				0	0	0	0	0	0	0	0	Double move problem : 660
	662	08:33:06	00:01:39				0	0	0	0	0	0	0	R	Empty move
	663	08:33:06	00:00:00				0	0	0	0	0	0	0		Double move problem : 662
	664	14:22:30	00:12:29	CN	5662	W	1	11	8	254	26	177	5589	T	Train with containers
	665	15:53:17	00:05:09	CN	5661	E	4	9	8	119	14	19	3281	T	Train with containers

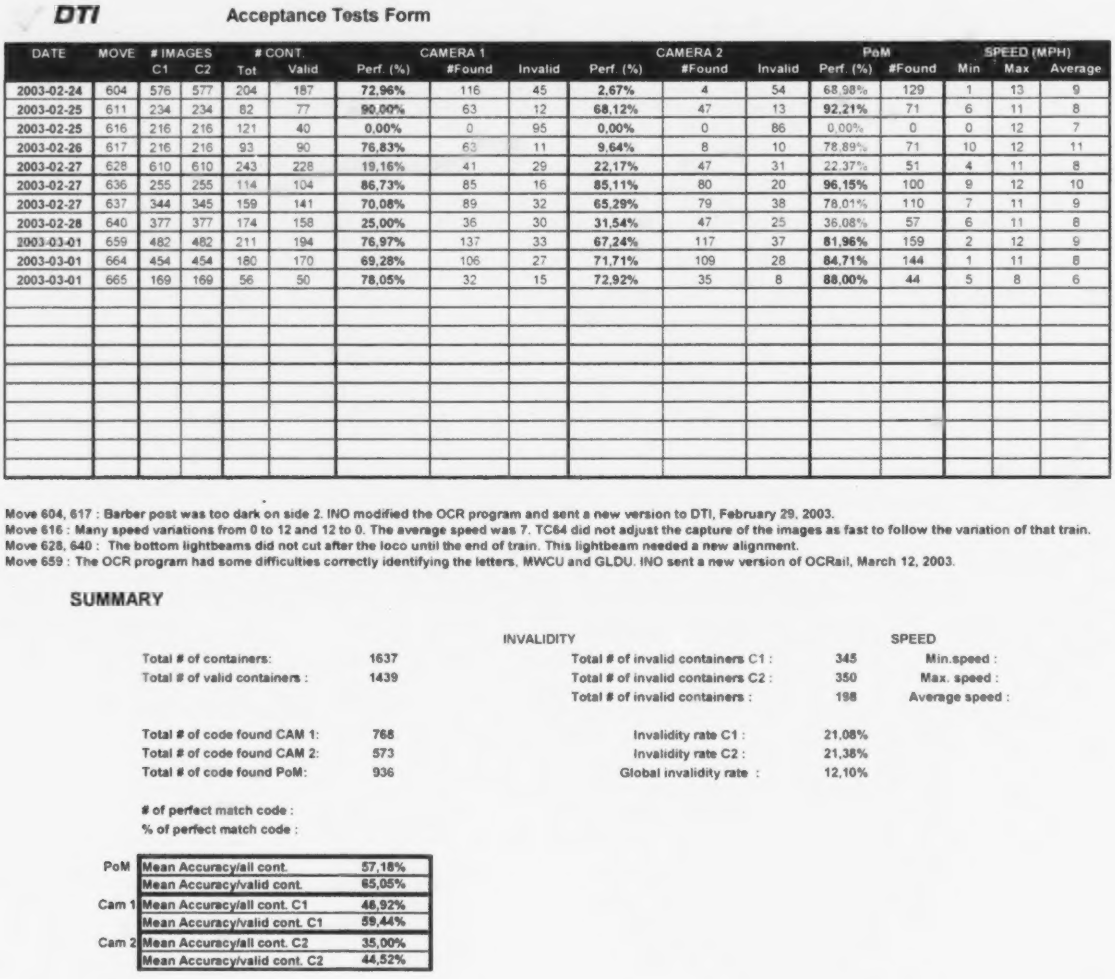
Results

Table 15 presents the OCR accuracy results for the second week of tests.

The minimum success rate that must be obtained to meet POM requirements is 80%. For week 2, the success rate for valid containers was 65.05%.

The success rate for all the containers was 57.18%.

Table 15 – Accuracy rate on moves with containers (week 2)



DTI **Acceptance Tests Form**

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2003-02-24	604	576	577	204	187	72,96%	116	45	2,67%	4	54	68,98%	129	1	13	9
2003-02-25	611	234	234	82	77	90,00%	63	12	68,12%	47	13	92,21%	71	6	11	8
2003-02-25	616	216	216	121	40	0,00%	0	95	0,00%	0	86	0,00%	0	0	12	7
2003-02-26	617	216	216	93	90	76,83%	63	11	9,64%	8	10	78,89%	71	10	12	11
2003-02-27	628	610	610	243	228	19,16%	41	29	22,17%	47	31	22,37%	51	4	11	8
2003-02-27	636	255	255	114	104	86,73%	85	16	85,11%	80	20	96,15%	100	9	12	10
2003-02-27	637	344	345	159	141	70,08%	89	32	65,29%	79	38	78,01%	110	7	11	9
2003-02-28	640	377	377	174	158	25,00%	36	30	31,54%	47	25	36,08%	57	6	11	8
2003-03-01	659	482	482	211	194	76,97%	137	33	67,24%	117	37	81,96%	159	2	12	9
2003-03-01	664	454	454	180	170	69,28%	106	27	71,71%	109	28	84,71%	144	1	11	8
2003-03-01	665	169	169	56	50	78,05%	32	15	72,92%	35	8	88,00%	44	5	8	6

Move 604, 617 : Barber post was too dark on side 2. INO modified the OCR program and sent a new version to DTI, February 29, 2003.
Move 616 : Many speed variations from 0 to 12 and 12 to 0. The average speed was 7. TC64 did not adjust the capture of the images as fast to follow the variation of that train.
Move 628, 640 : The bottom lightbeams did not cut after the loco until the end of train. This lightbeam needed a new alignment.
Move 659 : The OCR program had some difficulties correctly identifying the letters, MWCU and GLDU. INO sent a new version of OCRail, March 12, 2003.

SUMMARY

			INVALIDITY		SPEED
Total # of containers:	**1637**		**Total # of invalid containers C1 :**	**345**	**Min.speed :**
Total # of valid containers :	**1439**		**Total # of invalid containers C2 :**	**350**	**Max. speed :**
			Total # of invalid containers :	**198**	**Average speed :**
Total # of code found CAM 1:	**768**		**Invalidity rate C1 :**	**21,08%**	
Total # of code found CAM 2:	**573**		**Invalidity rate C2 :**	**21,38%**	
Total # of code found PoM:	**936**		**Global invalidity rate :**	**12,10%**	

# of perfect match code :
% of perfect match code :

PoM	**Mean Accuracy/all cont.**	**57,18%**
	Mean Accuracy/valid cont.	**65,05%**
Cam 1	**Mean Accuracy/all cont. C1**	**46,92%**
	Mean Accuracy/valid cont. C1	**59,44%**
Cam 2	**Mean Accuracy/all cont. C2**	**35,00%**
	Mean Accuracy/valid cont. C2	**44,52%**

Table 16 shows the processing times for the moves that were analysed during the second week of tests.

Table 16 – Processing times (week 2)

		Speed				Total of		Move	End process	Process	Performance	
Date	Move no	Min	Max	Average	Length	containers	Move time	duration	time	duration	flag	Comments
2003-02-24	604	1	13	9	7681	204	22 44 43	00 17 02	23 03 36	00 18 53	1	
2003-02-25	611	6	11	8	3262	82	16 49 30	00 06 37	16 57 08	00 07 38	1	
2003-02-25	616	0	12	7	7301	121	22 19 44	00 20 54	22 40 38	00 20 54	0	Move duration 20:54
2003-02-26	617	10	12	11	3045	93	05 56 34	00 05 15	06 03 16	00 06 42	1	
2003-02-27	628	4	11	8	10382	243	04 21 21	00 20 32	04 41 54	00 20 33	0	Move duration 20 32
2003-02-27	636	9	12	10	3544	114	22 17 06	00 05 52	22 25 12	00 08 06	1	
2003-02-27	637	7	11	9	5486	159	23 18 05	00 08 09	23 28 04	00 09 59	1	
2003-02-28	640	6	11	8	6008	174	03 32 15	00 08 40	03 42 01	00 09 46	1	
2003-03-01	659	2	12	9	7429	211	04 15 05	00 11 55	04 30 18	00 15 13	1	
2003-03-01	664	1	11	8	5588	180	14 23 30	00 12 25	14 38 18	00 14 48	1	
2003-03-01	665	5	8	6	3281	56	15 53 17	00 05 09	15 59 48	00 06 31	1	

Number of moves : 11
Respect of criterias : 9
Process time performance : 81,82%

All the train moves had a processing time of less than 20 minutes as required by POM. except for two moves. Move 616 took 00:20:54 to pass the site and move 628 took 00:20:32.

Modifications

Modifications had to be made to solve the following problems:

1) Target aligned incorrectly on side 2
The target on side 2 was aligned incorrectly, which made the images black. CCTC realigned the target and reduced the intensity on side 2 on February 24th 2003.

2) Intensity too strong on side 1
The intensity on side 1 was too strong, resulting in characters that were too white and illegible. CCTC reduce the intensity on side 1, which improved the quality of the images, on February 25th 2003.

3) Analysis problem with the OCRail software
The method for pairing the timestamps did not work properly. INO improved the timestamp-pairing algorithm on February 27th 2003, and DTI installed it at POM on February 28th 2003.

5.3 Week 3 – March 2nd to 8th 2003

The problems encountered in the second week of tests, such as the adjustment of the target and intensity of side 2, and the improvement in the timestamp pairing method, were solved before week 3 started.

During the test week from March 2nd to 8th 2003, 64 train moves were observed. Fourteen of the 64 trains had containers. All the trains were analysed by DTI.

Results

Table 15 presents the OCR accuracy results for the second week of tests.

The minimum success rate that must be obtained to meet POM requirements is 80%. For week 2, the success rate for valid containers was 65.05%.

The success rate for all the containers was 57.18%.

Table 15 – Accuracy rate on moves with containers (week 2)

DTI Acceptance Tests Form

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2003-02-24	604	576	577	204	187	72.96%	116	45	2.67%	4	54	68.98%	129	1	13	9
2003-02-25	611	234	234	82	77	90.00%	63	12	68.12%	47	13	92.21%	71	6	11	8
2003-02-25	616	216	216	121	40	0.00%	0	95	0.00%	0	86	0.00%	0	0	12	7
2003-02-26	617	216	216	93	90	76.83%	63	11	9.64%	8	10	78.89%	71	10	12	11
2003-02-27	625	610	610	243	228	19.16%	41	29	22.17%	47	31	22.37%	51	4	11	8
2003-02-27	636	255	255	114	104	86.73%	85	16	85.11%	80	20	96.15%	100	9	12	10
2003-02-27	637	344	345	159	141	70.08%	89	32	65.29%	79	38	78.01%	110	7	11	9
2003-02-28	640	377	377	174	158	25.00%	36	30	31.54%	47	25	36.08%	57	6	11	8
2003-03-01	659	482	482	211	194	76.97%	137	33	67.24%	117	37	81.96%	159	2	12	9
2003-03-01	664	454	454	180	170	69.28%	106	27	71.71%	109	28	84.71%	144	1	11	8
2003-03-01	665	169	169	56	50	78.05%	32	15	72.92%	35	8	88.00%	44	5	8	6

Move 604, 617 : Barber post was too dark on side 2. INO modified the OCR program and sent a new version to DTI, February 29, 2003.
Move 616 : Many speed variations from 0 to 12 and 12 to 0. The average speed was 7. TC64 did not adjust the capture of the images as fast to follow the variation of that train.
Move 628, 640 : The bottom lightbeams did not cut after the loco until the end of train. This lightbeam needed a new alignment.
Move 659 : The OCR program had some difficulties correctly identifying the letters, MWCU and GLDU. INO sent a new version of OCRail, March 12, 2003.

SUMMARY

		INVALIDITY		SPEED	
Total # of containers:	1637	Total # of invalid containers C1 :	345	Min.speed :	
Total # of valid containers :	1439	Total # of invalid containers C2 :	350	Max. speed :	
		Total # of invalid containers :	198	Average speed :	
Total # of code found CAM 1:	768	Invalidity rate C1 :	21.08%		
Total # of code found CAM 2:	573	Invalidity rate C2 :	21.38%		
Total # of code found PoM:	936	Global invalidity rate :	12.10%		

# of perfect match code :
% of perfect match code :

PoM	Mean Accuracy/all cont.	57.18%
	Mean Accuracy/valid cont.	65.05%
Cam 1	Mean Accuracy/all cont. C1	46.92%
	Mean Accuracy/valid cont. C1	59.44%
Cam 2	Mean Accuracy/all cont. C2	35.00%
	Mean Accuracy/valid cont. C2	44.52%

Table 16 shows the processing times for the moves that were analysed during the second week of tests.

Table 16 – Processing times (week 2)

Date	Move no.	Speed Min	 Max	 Average	Length	Total of containers	Move time	Move duration	End process time	Process duration	Performance flag	Comments
2003-02-24	604	1	13	9	7681	204	22:44:43	00:17:02	23:03:36	00:18:53	1	
2003-02-25	611	6	11	8	3262	82	16:49:30	00:06:37	16:57:08	00:07:38	1	
2003-02-25	616	0	12	7	7301	121	22:19:44	00:20:54	22:40:38	00:20:54	0	Move duration 20:54
2003-02-26	617	10	12	11	3045	93	05:56:34	00:05:15	06:03:16	00:06:42	1	
2003-02-27	628	4	11	8	10382	243	04:21:21	00:20:32	04:41:54	00:20:33	0	Move duration 20:32
2003-02-27	636	9	12	10	3544	114	22:17:06	00:05:52	22:25:12	00:08:06	1	
2003-02-27	637	7	11	9	5486	159	23:18:05	00:08:09	23:28:04	00:09:59	1	
2003-02-28	640	6	11	8	6008	174	03:32:15	00:08:40	03:42:01	00:09:46	1	
2003-03-01	659	2	12	9	7429	211	04:15:05	00:11:55	04:30:18	00:15:13	1	
2003-03-01	664	1	11	8	5588	180	14:23:30	00:12:25	14:38:18	00:14:48	1	
2003-03-01	665	5	8	6	3281	56	15:53:17	00:05:09	15:59:48	00:06:31	1	

Number of moves : 11
Respect of criterias : 9
Process time performance : 81.82%

All the train moves had a processing time of less than 20 minutes as required by POM except for two moves. Move 616 took 00:20:54 to pass the site and move 628 took 00:20:32.

Modifications

Modifications had to be made to solve the following problems:

1) Target aligned incorrectly on side 2
The target on side 2 was aligned incorrectly, which made the images black. CCTC realigned the target and reduced the intensity on side 2 on February 24th 2003.

2) Intensity too strong on side 1
The intensity on side 1 was too strong, resulting in characters that were too white and illegible. CCTC reduce the intensity on side 1, which improved the quality of the images, on February 25th 2003.

3) Analysis problem with the OCRail software
The method for pairing the timestamps did not work properly. INO improved the timestamp-pairing algorithm on February 27th 2003, and DTI installed it at POM on February 28th 2003.

5.3 Week 3 – March 2nd to 8th 2003

The problems encountered in the second week of tests, such as the adjustment of the target and intensity of side 2, and the improvement in the timestamp pairing method, were solved before week 3 started.

During the test week from March 2nd to 8th 2003, 64 train moves were observed. Fourteen of the 64 trains had containers. All the trains were analysed by DTI.

Table 17 provides a classification of these moves for week 3.

Table 17 – Classification of observed moves (week 3)

Type of train	# of trains	%
Simulation	0	0.00
Empty move	6	9.38
Locomotive only	20	31.25
Train without containers	0	0.00
Train with containers	14	21.88
Freight train	24	37.50
Total # of trains	64	100.00

Table 18 presents the information for these moves generated by the AEI station during the third week of tests.

Table 18 – Move information (week 3)

Date	Move	Move Time	Move Duration	Lead	Engine	Dir.	Speed			Axle.	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2003-03-02	666	09 29 28	00 02 07			E	5	7	6	32	8	10	502	T	Freight Train
	667	10 16 30	00 01 57			W	7	8	8	4	1	0	56	T	Locomotive only
	668	14 09 38	00 02 10				0	0	0	0	0	0	0	R	Locomotive only
	669	14 21 54	00 05 13	CN	7249	WR	1	12	9	88	22	23	1290	T	Freight Train
	670	15 04 51	00 14 17	CN	7249	WR	1	12	7	120	30	30	1755	T	Freight Train
	671	15 22 03	00 01 59	CN	7249	WR	3	8	6	12	3	3	171	T	Freight Train
	672	15 29 54	00 02 26	CN	7249	WR	5	12	9	20	5	5	289	T	Freight Train
	673	16 18 42	00 14 30	CN	5458	W	1	11	8	261	24	131	5427	T	Train with containers
	674	16 38 27	00 14 32			W	0	7	5	64	6	40	1431	T	Train with containers
	675	18 21 58	00 06 48	CN	5663	E	4	8	6	144	13	28	3232	T	Train with containers
2003-03-03	676	08 44 40	00 06 37			E	7	7	7	4	1	0	49	T	Locomotive only
	677	09 01 42	00 05 57			W	4	6	5	4	1	0	56	T	Locomotive only
	678	21 17 06	00 01 21				0	0	0	0	0	0	0	R	Locomotive only
	679	21 44 08	00 06 19	CN	7249	WR	1	10	8	92	23	24	1345	T	Freight Train
2003-03-04	680	09 58 39	00 01 15			E	7	9	8	12	3	2	194	T	Freight Train
	681	10 12 23	00 02 04			W	7	11	9	12	3	3	200	T	Freight Train
	682	10 28 13	00 02 52	CN	7249	WR	1	4	3	4	1	1	56	TR	Locomotive only
	683	10 38 36	00 01 24				0	0	0	0	0	0	0	R	Empty move
	684	10 51 45	00 08 39	CN	7249	WR	0	11	7	100	25	25	1473	T	Freight Train
	685	11 12 32	00 02 23	CN	7249	WR	1	9	5	12	3	3	171	T	Freight Train
	686	13 57 34	00 01 38			W	12	12	12	1	1	0	13	T	Locomotive only
	687	18 11 53	00 08 12	CN	7249	WR	1	9	5	40	10	11	584	TR	Freight Train
	688	18 38 02	00 03 04	CN	7249	WR	4	10	9	44	11	12	646	T	Freight Train
2003-03-05	689	03 31 48	00 19 35	CN	7249	W	1	8	6	248	26	172	6136	T	Train with containers
	690	04 16 51	00 01 47	CN	259	E	8	9	9	8	2	2	112	T	Locomotive only
	691	04 16 51	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 690
	692	05 45 35	00 13 06	CN	2665	E	4	14	9	424	42	44	9847	T	Train with containers
	693	15 38 12	00 01 45			E	8	12	10	52	13	12	774	T	Freight Train
	694	15 57 11	00 01 14			E	6	7	6	4	1	0	53	T	Locomotive only
	695	16 13 52	00 02 20			W	8	11	10	28	7	6	433	T	Freight Train
	696	16 59 42	00 01 16			W	5	6	6	4	1	0	56	T	Locomotive only
	697	17 19 45	00 09 16	CN	7249	WR	1	11	5	24	6	6	348	T	Freight Train
	698	17 37 59	00 01 52				0	0	0	0	0	0	0	R	Empty move
	699	17 42 45	00 05 14	CN	7249	WR	3	10	8	56	14	15	820	T	Freight Train
	700	21 48 02	00 00 00				0	0	0	0	0	0	0	R	Empty move
	701	21 56 16	00 01 52	CN	7249	WR	2	8	6	5	2	1	72	T	Locomotive only
2003-03-06	702	11 02 50	00 12 30	CN	7249	WR	1	9	5	80	20	19	1155	T	Freight Train
	703	11 26 36	00 02 26	CN	7249	WR	1	5	4	12	3	2	161	T	Locomotive only
	704	11 30 13	00 07 41	CN	7249	WR	0	9	5	36	9	7	505	T	Freight Train
	705	11 47 56	00 02 02	CN	7249	WR	1	7	4	5	2	1	72	T	Locomotive only
	706	11 51 18	00 01 26			WR	3	5	4	2	1	0	13	T	Locomotive only
	707	15 01 17	00 01 49			E	7	8	7	8	2	0	102	T	Locomotive only
	708	15 01 17	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 707
	709	15 13 12	00 01 59			WR	8	10	9	16	4	0	213	T	Locomotive only
	710	15 56 45	00 05 45			E	6	6	6	4	1	0	49	T	Locomotive only
	711	15 56 45	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 710
	712	17 00 16	00 10 48	CN	7247	WR	5	9	7	252	29	70	5368	T	Train with containers
	713	17 24 49	00 01 43				0	0	0	0	0	0	0	R	Empty move
	714	17 4[illegible] 24	00 07 59			WR	3	10	7	64	16	15	948	T	Freight Train
	715	19 59 11	00 10 04	CN	7208	E	2	7	5	110	16	11	2366	T	Train with containers
	716	19 59 11	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 715
	717	20 14 37	00 11 48			E	1	7	5	128	12	12	3038	T	Train with containers
	718	20 14 37	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 717
	719	22 01 06	00 09 37	CN	7249	WR	0	9	6	52	13	13	761	TR	Freight Train
	720	22 18 19	00 01 25				0	0	0	0	0	0	0	R	Empty move
2003-03-07	721	03 58 56	00 05 45	CN	7249	W	7	11	9	136	15	22	2848	T	Train with containers
	722	04 37 24	00 06 40	CN	259	E	8	10	9	8	2	2	112	T	Locomotive only
	723	10 52 49	00 05 41			W	7	7	7	2	1	0	23	T	Locomotive only
	724	11 08 35	00 01 39			E	11	11	11	2	1	0	20	R	Locomotive only
	725	11 08 35	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 724
	726	16 24 20	00 02 51	CN	7249	WR	3	10	6	12	3	3	171	T	Freight Train
	727	16 48 27	00 04 21	CN	7249	WR	2	12	9	72	18	18	1053	T	Freight Train
	728	19 40 32	00 14 30	CN	2423	W	1	11	7	300	31	155	6979	T	Train with containers
	729	20 51 14	00 02 28	CN	2416	E	7	10	9	64	6	14	1834	T	Train with containers
	730	21 20 00	00 08 46	CN	7249	WR	0	9	6	76	19	20	1106	TR	Freight Train
	731	21 34 14	00 02 04	CN	7249	WR	1	10	6	12	3	3	171	T	Freight Train
2003-03-08	732	09 42 02	00 06 32			E	12	13	12	2	1	0	26	T	Locomotive only
	733	18 38 27	00 19 00	CN	9513	W	1	13	7	310	34	159	6566	T	Train with containers
	734	20 51 50	00 07 50	CN	5726	E	2	9	6	170	17	28	4180	T	Train with containers
	735	20 59 55	00 11 10			E	1	7	5	100	9	9	2228	T	Train with containers
	736	20 59 55	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 735

Table 18 presents the information for these moves generated by the AEI station during the third week of tests.

Table 18 – Move information (week 3)

Date	Move	Move Time	Move Duration	Lead	Engine	Dir.	Speed			Axle	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2003-03-02	666	09:29:28	00:02:07			E	5	7	6	32	8	10	502	T	Freight Train
	667	10:16:30	00:01:57			W	7	8	7	4	1	0	56	T	Locomotive only
	668	14:09:34	00:02:10				0	0	0	0	0	0	0	R	Locomotive only
	669	14:21:54	00:05:13	CN	7249	WP	1	12	9	88	22	23	1290	T	Freight Train
	670	15:04:51	00:14:17	CN	7249	WP	1	12	7	120	30	30	1755	T	Freight Train
	671	15:22:03	00:01:59	CN	7249	WP	3	8	6	12	3	3	173	T	Freight Train
	672	15:29:54	00:02:26	CN	7249	WP	5	12	9	20	5	5	289	T	Freight Train
	673	16:18:42	00:14:35	CN	5452	W	1	11	5	291	24	131	5427	T	Train with containers
	674	16:38:27	00:14:32			W	0	7	3	64	6	41	1411	T	Train with containers
	675	18:21:55	00:06:49	CN	5663	E	4	8	6	144	13	29	3232	T	Train with containers
2003-03-03	676	05:44:40	00:06:57			E	7	7	7	4	1	0	45	T	Locomotive only
	677	09:01:42	00:03:57			W	4	8	5	4	1	0	56	T	Locomotive only
	678	21:17:06	00:01:21				0	0	0	0	0	0	0	R	Locomotive only
	679	21:44:05	00:06:13	CN	7249	WP	1	10	8	92	23	24	1345	T	Freight Train
2003-03-04	680	09:58:39	00:01:13			E	7	9	8	12	3	2	194	T	Freight Train
	681	10:12:23	00:02:04			W	7	11	9	12	3	3	200	T	Freight Train
	682	10:28:13	00:02:52	CN	7249	WP	1	4	3	4	1	1	56	TR	Locomotive only
	683	10:35:36	00:01:24				0	0	0	0	0	0	0	R	Empty move
	684	10:51:45	00:08:24	CN	7249	WP	0	11	7	100	25	25	1470	T	Freight Train
	685	11:12:32	00:02:23	CN	7249	WP	1	5	3	12	3	3	177	T	Freight Train
	686	13:57:34	00:01:38			W	12	12	12	1	1	0	11	T	Locomotive only
	687	18:11:53	00:03:10	CN	7249	WP	1	9	5	40	10	11	584	TR	Freight Train
	688	18:28:02	00:03:04	CN	7249	WP	4	10	9	44	11	12	646	T	Freight Train
2003-03-05	689	03:31:48	00:19:35	CN	7249	W	1	8	5	240	26	112	6136	T	Train with containers
	690	04:16:51	00:01:47	CN	259	E	8	9	9	8	2	2	112	T	Locomotive only
	691	04:16:51	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 690
	692	05:45:35	00:13:06	CN	2665	E	4	14	9	424	42	44	9847	T	Train with containers
	693	11:33:12	00:01:45			E	3	12	10	52	13	12	774	T	Freight Train
	694	11:57:11	00:01:14			E	6	7	6	4	1	0	53	T	Locomotive only
	695	16:13:52	00:02:20			W	3	11	10	28	7	6	432	T	Freight Train
	696	16:59:42	00:01:16			W	5	6	6	4	1	0	56	T	Locomotive only
	697	17:19:45	00:09:16	CN	7249	WP	1	11	5	24	6	6	348	T	Freight Train
	698	17:37:59	00:01:52				0	0	0	0	0	0	0	R	Empty move
	699	17:42:45	00:05:14	CN	7249	WP	3	10	8	56	14	11	820	T	Freight Train
	700	21:48:02	00:00:00				0	0	0	0	0	0	0	R	Empty move
	701	21:56:39	00:01:52	CN	7249	WP	2	8	6	8	2	2	112	T	Locomotive only
2003-03-06	702	11:02:55	00:12:33	CN	7249	WP	1	9	5	80	20	19	1152	T	Freight Train
	703	11:26:38	00:02:26	CN	7249	WP	1	5	4	12	3	2	161	T	Locomotive only
	704	11:30:13	00:07:41	CN	7249	WP	3	8	7	36	9	7	505	T	Freight Train
	705	11:47:59	00:02:02	CN	7249	WP	1	7	4	8	2	2	112	T	Locomotive only
	706	11:51:16	00:01:26			WP	3	7	4	4	1	0	53	T	Locomotive only
	707	15:01:17	00:01:49			E	7	8	7	8	2	2	102	T	Locomotive only
	708	15:01:17	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 707
	709	15:13:12	00:01:59			WP	8	10	9	16	4	3	213	T	Locomotive only
	710	15:56:45	00:05:45			E	5	9	6	4	1	0	49	T	Locomotive only
	711	15:56:45	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 710
	712	17:20:16	00:10:48	CN	7247	WP	3	9	7	252	25	70	5368	T	Train with containers
	713	17:24:43	00:01:41				0	0	0	0	0	0	0	R	Empty move
	714	17:46:24	00:07:59			WP	1	10	7	64	16	15	945	T	Freight Train
	715	19:59:11	00:10:04	CN	7209	E	4	7	5	110	16	11	2266	T	Train with containers
	716	19:59:11	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 715
	717	20:14:37	00:11:48			E	1	7	5	109	12	12	2608	T	Train with containers
	718	20:14:37	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 717
	719	22:01:36	00:09:37	CN	7249	WP	3	5	5	52	13	13	761	TR	Freight Train
	720	22:19:19	00:01:25				0	0	0	0	0	0	0	R	Empty move
2003-03-07	721	03:59:06	00:05:41	CN	7249	W	1	11	9	116	13	22	2541	T	Train with containers
	722	04:37:24	00:06:40	CN	259	E	8	10	9	8	2	2	112	T	Locomotive only
	723	10:52:49	00:05:41			W	7	7	7	2	1	0	23	T	Locomotive only
	724	11:08:25	00:01:39			E	11	11	11	2	1	0	28	R	Locomotive only
	725	11:08:31	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 724
	726	15:24:20	00:02:51	CN	7249	WP	1	10	8	12	3	3	171	T	Freight Train
	727	16:48:27	00:04:21	CN	7249	WP	2	12	9	72	18	18	1051	T	Freight Train
	728	19:40:32	00:14:30	CN	2422	W	1	11	7	300	37	113	6979	T	Train with containers
	729	20:51:14	00:02:28	CN	2416	E	1	10	8	64	6	14	1824	T	Train with containers
	730	21:20:00	00:03:45	CN	7249	WP	3	9	6	76	19	20	1108	TR	Freight Train
	731	21:34:14	00:02:04	CN	7249	WP	1	10	8	12	3	3	171	T	Freight Train
2003-03-08	732	09:42:52	00:08:32			E	12	13	12	2	1	0	28	T	Locomotive only
	733	18:38:27	00:19:60	CN	5511	W	1	13	7	315	34	133	6566	T	Train with containers
	734	20:51:50	00:07:50	CN	5725	E	2	9	6	170	17	28	4180	T	Train with containers
	735	20:59:55	00:11:10			E	1	7	5	100	9	9	2225	T	Train with containers
	736	20:59:55	00:00:00			E	0	0	0	0	0	0	0	R	Double move problem - 735

Weather conditions

During this test week, four days of snow and one day of rain were reported. The days with snow did not have any effect on the quality of the images. The cold and the rain did not have any effect on the performance of the external equipment.

Table 19 – Weather conditions (week 3)

Day	Date	Time	Celsius	Winds (km/h)	Wind factor	Climate
Sunday	March 2nd 2003	09:00:00	0	13	-4	Snow
Sunday	March 2nd 2003	16:00:00	2	19	-3	Rain
Monday	March 3rd 2003	06:00:00	-26	26	-40	Sunny with clouds
Monday	March 3rd 2003	16:00:00	-20	43	-35	Sunny with clouds
Tuesday	March 4th 2003	07:00:00	-18	11	-25	Sunny with clouds
Tuesday	March 4th 2003	16:00:00	-6	11	-11	Snow
Wednesday	March 5th 2003	07:00:00	-8	33	-17	Snow
Wednesday	March 5th 2003	16:00:00	-6	26	-14	Snow
Thursday	March 6th 2003	07:00:00	-14	15	-22	Sunny with clouds
Thursday	March 6th 2003	16:00:00	-9	7		Sunny with clouds
Friday	March 7th 2003	07:00:00	-19	9		Sunny with clouds
Friday	March 7th 2003	16:00:00				
Saturday	March 8th 2003	07:00:00	-4	11	-8	Cloudy
Saturday	March 8th 2003	16:00:00	-6	13		Cloudy with sunny periods

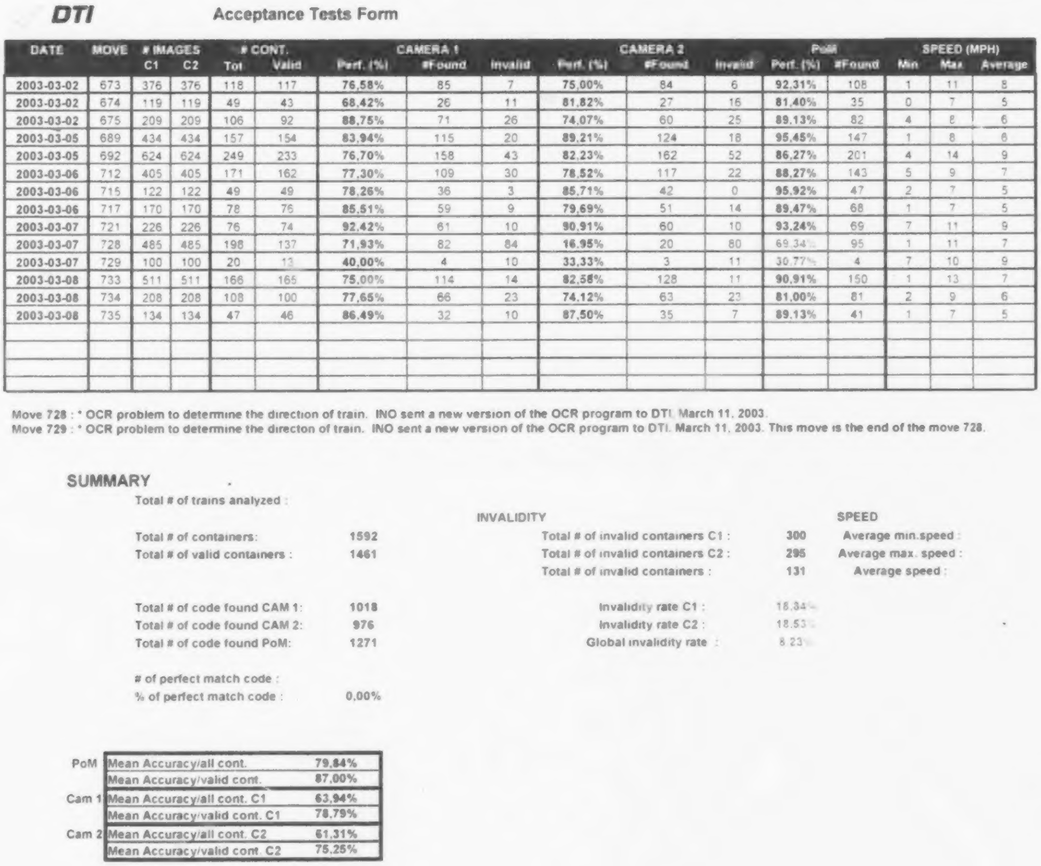
Results

Table 20 provides the OCR accuracy results for the third week of tests.

The minimum success rate that must be obtained to meet POM requirements is 80%. For week 3, the success rate for valid containers was 87.00%.

The success rate for all the containers was 79.84%.

Table 20 – Accuracy rate on moves with containers (week 3)



DTI Acceptance Tests Form

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2003-03-02	673	376	376	118	117	76,58%	85	7	75,00%	84	6	92,31%	108	1	11	8
2003-03-02	674	119	119	49	43	68,42%	26	11	81,82%	27	16	81,40%	35	0	7	5
2003-03-02	675	209	209	106	92	88,75%	71	26	74,07%	60	25	89.13%	82	4	8	6
2003-03-05	689	434	434	157	154	83,94%	115	20	89,21%	124	18	95,45%	147	1	8	6
2003-03-05	692	624	624	249	233	76,70%	158	43	82,23%	162	52	86,27%	201	4	14	9
2003-03-06	712	405	405	171	162	77,30%	109	30	78,52%	117	22	88,27%	143	5	9	7
2003-03-06	715	122	122	49	49	78,26%	36	3	85,71%	42	0	95,92%	47	2	7	5
2003-03-06	717	170	170	78	76	85,51%	59	9	79,69%	51	14	89,47%	68	1	7	5
2003-03-07	721	226	226	76	74	92,42%	61	10	90,91%	60	10	93.24%	69	7	11	9
2003-03-07	728	485	485	198	137	71,93%	82	84	16,95%	20	80	69,34%	95	1	11	7
2003-03-07	729	100	100	20	13	40,00%	4	10	33,33%	3	11	30,77%	4	7	10	9
2003-03-08	733	511	511	166	165	75,00%	114	14	82,58%	128	11	90,91%	150	1	13	7
2003-03-08	734	208	208	108	100	77,65%	66	23	74.12%	63	23	81,00%	81	2	9	6
2003-03-08	735	134	134	47	46	86,49%	32	10	87,50%	35	7	89.13%	41	1	7	5

Move 728 : * OCR problem to determine the direction of train. INO sent a new version of the OCR program to DTI, March 11, 2003.
Move 729 : * OCR problem to determine the directon of train. INO sent a new version of the OCR program to DTI. March 11, 2003. This move is the end of the move 728.

SUMMARY

Total # of trains analyzed :

Total # of containers: 1592
Total # of valid containers : 1461

Total # of code found CAM 1: 1018
Total # of code found CAM 2: 976
Total # of code found PoM: 1271

# of perfect match code :
% of perfect match code : 0,00%

INVALIDITY

Total # of invalid containers C1 : 300
Total # of invalid containers C2 : 295
Total # of invalid containers : 131

Invalidity rate C1 : 18,34%
Invalidity rate C2 : 18,53%
Global invalidity rate : 8,23%

SPEED

Average min.speed :
Average max. speed :
Average speed :

PoM	Mean Accuracy/all cont.	79,84%
	Mean Accuracy/valid cont.	87,00%
Cam 1	Mean Accuracy/all cont. C1	63,94%
	Mean Accuracy/valid cont. C1	78,79%
Cam 2	Mean Accuracy/all cont. C2	61,31%
	Mean Accuracy/valid cont. C2	75,25%

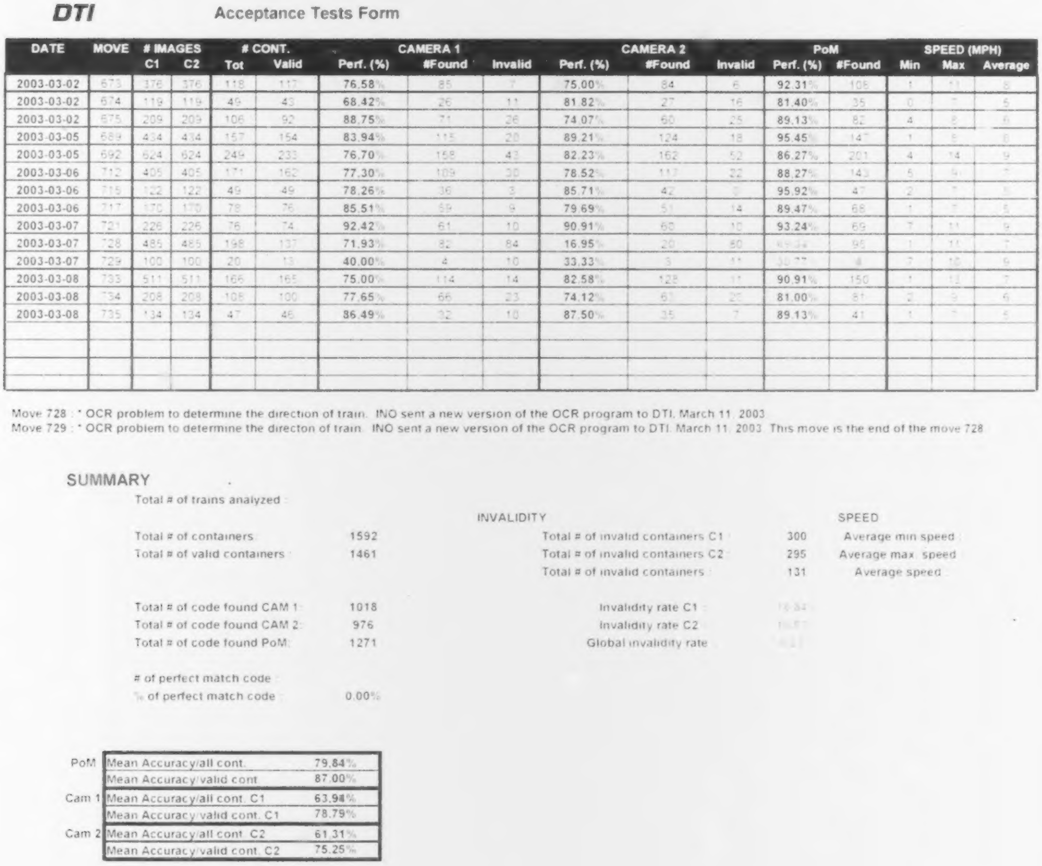
Results

Table 20 provides the OCR accuracy results for the third week of tests.

The minimum success rate that must be obtained to meet POM requirements is 80%. For week 3, the success rate for valid containers was 87.00%.

The success rate for all the containers was 79.84%.

Table 20 – Accuracy rate on moves with containers (week 3)



DTI Acceptance Tests Form

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2003-03-02	673	376	376	118	117	76.58%	85	7	75.00%	84	6	92.31%	108	1	11	8
2003-03-02	674	119	119	49	43	68.42%	26	11	81.82%	27	16	81.40%	35	0	7	5
2003-03-02	675	209	209	106	92	88.75%	71	26	74.07%	60	25	89.13%	82	4	8	6
2003-03-05	689	434	434	157	154	83.94%	115	20	89.21%	124	18	95.45%	147	1	8	8
2003-03-05	692	624	624	249	233	76.70%	158	43	82.23%	162	52	86.27%	201	4	14	9
2003-03-06	712	405	405	171	162	77.30%	109	30	78.52%	117	22	88.27%	143	5	9	7
2003-03-06	715	122	122	49	49	78.26%	36	3	85.71%	42	0	95.92%	47	2	7	5
2003-03-06	717	170	170	78	76	85.51%	59	9	79.69%	51	14	89.47%	68	1	7	5
2003-03-07	721	226	226	76	74	92.42%	61	10	90.91%	60	10	93.24%	69	7	11	9
2003-03-07	728	485	485	198	137	71.93%	82	84	16.95%	20	80	69.34%	95	1	14	7
2003-03-07	729	100	100	20	13	40.00%	4	10	33.33%	3	11	30.77%	4	7	10	9
2003-03-08	733	511	511	166	165	75.00%	114	14	82.58%	128	11	90.91%	150	1	12	7
2003-03-08	734	208	208	108	100	77.65%	66	23	74.12%	63	23	81.00%	81	2	9	6
2003-03-08	735	134	134	47	46	86.49%	32	10	87.50%	35	7	89.13%	41	1	7	5

Move 728 : * OCR problem to determine the direction of train. INO sent a new version of the OCR program to DTI, March 11, 2003

Move 729 : * OCR problem to determine the directon of train. INO sent a new version of the OCR program to DTI, March 11, 2003. This move is the end of the move 728

SUMMARY

Total # of trains analyzed :

Total # of containers :	1592
Total # of valid containers :	1461
Total # of code found CAM 1 :	1018
Total # of code found CAM 2 :	976
Total # of code found PoM :	1271
# of perfect match code :	
% of perfect match code :	0.00%

INVALIDITY

Total # of invalid containers C1 :	300
Total # of invalid containers C2 :	295
Total # of invalid containers :	131
Invalidity rate C1 :	[illegible]
Invalidity rate C2 :	[illegible]
Global invalidity rate :	[illegible]

SPEED

Average min speed :
Average max. speed :
Average speed :

PoM	Mean Accuracy/all cont.	79.84%
	Mean Accuracy/valid cont.	87.00%
Cam 1	Mean Accuracy/all cont. C1	63.94%
	Mean Accuracy/valid cont. C1	78.79%
Cam 2	Mean Accuracy/all cont. C2	61.31%
	Mean Accuracy/valid cont. C2	75.25%

Table 21 provides the processing times for the train moves that were analysed during the third week of tests.

Several train moves had processing times exceeding 20 minutes. Moves 692, 728 and 729 had a problem with the OCRail application, which stopped during analysis. Move 718 had a processing time of 00:58:11 because there was a problem with the AEI.

Table 21 – Processing times (week 3)

Date	Move no.	Speed Min	Speed Max	Speed Average	Length	Total of containers	Move time	Move duration	End process time	Process duration	Performance flag	Comments	
2003-03-02	673	1	11	8	5427	118	16:18:42	00:14:30	16:35:26	00:16:44	1		
2003-03-02	674	0	7	5	1431	49	16:38:27	00:14:32	16:53:08	00:14:41	1		
2003-03-02	675	4	8	6	3232	105	18:21:58	00:06:48	18:30:36	00:08:38	1		
2003-03-05	689	1	8	6	6136	127	03:31:48	00:19:35	03:54:26	00:22:38	0	Move duration 19:35	
2003-03-05	692	4	14	9	9847	249	05:45:35	00:13:05	06:44:24	00:58:49	0	OCRail problem	*
2003-03-06	712	5	9	7	5368	171	17:00:16	00:10:48	17:14:10	00:13:54	1		
2003-03-06	715	2	7	5	2366	49	19:59:11	00:10:04	20:10:24	00:11:13	1		
2003-03-06	718	1	7	5	3038	78	20:14:37	00:11:48	21:12:48	00:58:11	0	AEI problem	**
2003-03-07	721	7	11	9	2848	76	03:58:56	00:05:45	04:06:20	00:07:24	1		
2003-03-07	728	1	11	7	6979	198	19:40:32	00:14:33	19:57:44	00:17:12	1	OCRail problem	*
2003-03-07	729	7	10	9	1834	20	20:51:14	00:02:28	20:59:12	00:07:58	1	OCRail problem	*
2003-03-08	733	1	13	7	6566	166	18:38:27	00:19:00	19:00:14	00:21:47	0	Move duration 19:00	
2003-03-08	734	2	9	6	4180	108	20:51:50	00:07:50	21:01:26	00:09:36	1		
2003-03-08	735	1	7	5	2228	47	20:59:55	00:11:10	21:11:32	00:11:37	1		

Number of moves : 14
Respect of criterias : 10
Process time performance : 71.43%

* These three moves do not meet the requirement. We identified a problem with the OCRail program, which occasionnaly stopped in the middle of the move for no specific reason. INO made a modification to the OCRail program and sent the new executable to DTI. DTI installed a new version of OCRail at POM, March 11, 2003.

** Two moves with the same move time

Modifications

Modifications had to be made to solve the following problems:

1) Failure of the OCRail application

The OCRail application failed during a train move for no apparent reason. INO is currently working on this problem, and no correction had been made by March 31st 2003. This problem should be resolved in a subsequent phase.

2) Identical direction on both sides

Both ICR files had an identical direction bit. This problem caused a duplication of recognized characters and a pairing problem. The direction bit in the ICR file was determined by the fifth image read, and not by the last image of the first group of files received by the Corails. INO modified the software on March 10th 2003, and DTI installed the new version at POM on March 11th 2003.

5.4 Week 4 – March 9th to 15th 2003

The problem involving the identical direction was solved before the fourth week of tests started. The failure of the OCRail application could not be solved before this week of tests, but INO is currently working on the problem.

During the test week from March 9th to 15th 2003, 72 train moves were observed. Twelve of the 72 trains had containers. All the trains were analysed by DTI.

Table 21 provides the processing times for the train moves that were analysed during the third week of tests.

Several train moves had processing times exceeding 20 minutes. Moves 692, 728 and 729 had a problem with the OCRail application, which stopped during analysis. Move 718 had a processing time of 00:58:11 because there was a problem with the AEI.

Table 21 – Processing times (week 3)

Date	Move no	Speed Min	Speed Max	Speed Average	Length	Total of containers	Move time	Move duration	End process time	Process duration	Performance flag	Comments
2003-03-02	673	1	11	8	5427	118	16 18 42	00 14 30	16 35 26	00 16 44	1	
2003-03-02	674	0	7	5	1431	49	16 38 27	00 14 32	16 53 08	00 14 41	1	
2003-03-02	675	4	8	6	3232	105	18 21 58	00 06 48	18 30 36	00 08 38	1	
2003-03-05	689	1	8	6	6136	157	03 31 48	00 19 35	03 54 26	00 22 38	0	Move duration 19 35
2003-03-05	692	4	14	9	9847	249	05 45 35	00 13 06	06 44 24	00 58 49	0	OCRail problem *
2003-03-06	712	5	9	7	5368	171	17 00 16	00 10 48	17 14 10	00 13 54	1	
2003-03-06	715	2	7	5	2366	49	19 59 11	00 10 04	20 10 24	00 11 13	1	
2003-03-06	718	1	7	5	3038	78	20 14 37	00 11 48	21 12 48	00 58 11	0	AEI problem **
2003-03-07	721	7	11	9	2848	76	03 58 56	00 05 45	04 06 20	00 07 24	1	
2003-03-07	728	1	11	7	6979	198	19 40 32	00 14 30	19 57 44	00 17 12	1	OCRail problem *
2003-03-07	729	7	10	9	1834	20	20 51 14	00 02 28	20 59 12	00 07 58	1	OCRail problem *
2003-03-08	733	1	13	7	6566	166	18 38 27	00 19 00	19 00 14	00 21 47	0	Move duration 19 00
2003-03-08	734	2	9	6	4180	108	20 51 50	00 07 50	21 01 26	00 09 36	1	
2003-03-08	735	1	7	5	2228	47	20 59 55	00 11 10	21 11 32	00 11 37	1	

Number of moves : 14
Respect of criterias : 10
Process time performance : 71,43%

*** These three moves do not meet the requirement. We identified a problem with the OCRail program, which occasionnaly stopped in the middle of the move for no specific reason. INO made a modification to the OCRail program and sent the new executable to DTI. DTI installed a new version of OCRail at POM, March 11, 2003.**

**** Two moves with the same move time.**

Modifications

Modifications had to be made to solve the following problems:

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The OCRail application failed during a train move for no apparent reason. INO is currently working on this problem, and no correction had been made by March 31st 2003. This problem should be resolved in a subsequent phase.

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Both ICR files had an identical direction bit. This problem caused a duplication of recognized characters and a pairing problem. The direction bit in the ICR file was determined by the fifth image read, and not by the last image of the first group of files received by the Corails. INO modified the software on March 10th 2003, and DTI installed the new version at POM on March 11th 2003.

5.4 Week 4 – March 9th to 15th 2003

The problem involving the identical direction was solved before the fourth week of tests started. The failure of the OCRail application could not be solved before this week of tests, but INO is currently working on the problem.

During the test week from March 9th to 15th 2003, 72 train moves were observed. Twelve of the 72 trains had containers. All the trains were analysed by DTI.

Table 22 provides a classification of these moves for week 4.

Table 22 – Classification of observed moves (week 4)

Type of train	# of trains	%
Simulation	0	0.00
Empty move	20	27.78
Locomotive only	16	22.22
Train without containers	0	0.00
Train with containers	12	16.67
Freight train	24	33.33
Total # of trains	72	100.00

Table 23 presents the information for these moves generated by the AEI station during the fourth week of tests.

Table 23 – Move information (week 4)

Date	Move	Move Time	Move Duration	Lead	Engine	Dir.	Speed			Axle	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2003-03-09	737	04 58 47	00 05 36	CN	4730	W	6	12	9	[illegible]	15	22	2743	T	Train with containers
	738	05 52 13	00 01 54	CN	7229	E	8	10	9	16	4	4	226	T	Locomotive only
	739	05 52 13	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 738
	740	10 01 23	00 03 12				0	0	0	0	0	0	0	R	Empty move
	741	10 10 21	00 12 31	CN	7249	WR	1	5	3	16	4	4	230	T	Freight Train
	742	10 25 03	00 08 48	CN	7249	W	3	12	7	104	26	26	1519	T	Freight Train
	743	10 34 22	00 05 59	CN	7249	E	1	7	4	102	26	26	1473	T	Freight Train
	744	11 41 09	00 09 31	CN	7249	WR	1	9	5	77	20	19	1122	T	Freight Train
	745	11 58 31	00 01 34				0	0	0	0	0	0	0	R	Empty move
	746	17 16 57	00 18 12	CN	2532	W	0	11	7	284	29	29	6313	T	Train with containers
	747	19 51 26	00 16 12	CN	2425	E	1	9	6	356	38	39	8065	T	Train with containers
2003-03-10	748	14 09 10	00 01 05				0	0	0	0	0	0	0	R	Empty move
	749	14 10 11	00 07 16			W	5	5	5	2	1	0	23	T	Locomotive only
	750	14 30 37	00 01 11			E	9	11	10	2	1	0	20	T	Locomotive only
	751	14 34 20	00 05 43			W	6	7	7	2	1	0	22	T	Locomotive only
	752	15 09 57	00 01 01			E	12	12	12	2	1	0	20	T	Locomotive only
	753	16 47 50	00 02 01				0	0	0	0	0	0	0	R	Empty move
	754	17 24 51	00 09 59	CN	7249	W	1	8	5	76	19	19	1112	T	Freight Train
	755	17 36 56	00 00 00				0	0	0	0	0	0	0	R	Empty move
	756	17 36 58	00 06 33	CN	7249	ES	1	7	5	78	20	19	1096	T	Freight Train
	757	21 50 06	00 06 45	CN	7249	WR	0	10	6	69	18	19	1080	TR	Freight Train
	758	22 12 12	00 01 08				0	0	0	0	0	0	0	R	Empty move
	759	22 14 36	00 01 40	CN	7249	WR	3	8	5	8	2	2	112	T	Locomotive only
	760	22 18 48	00 05 33				0	0	0	0	0	0	0	R	Empty move
	761	22 56 22	00 06 45	CN	5252	W	6	10	8	152	15	80	3153	T	Train with containers
2003-03-11	762	03 15 25	00 11 34	CN	5601	E	5	10	9	392	40	182	8092	TR	Train with containers
	763	06 44 00	00 01 46			E	5	8	7	32	8	6	453	T	Freight Train
	764	09 00 59	00 01 41			E	9	10	9	4	1	0	49	T	Locomotive only
	765	09 00 59	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 764
	766	09 25 29	00 02 56			W	5	11	8	44	11	9	669	T	Freight Train
	767	09 52 46	00 01 48			W	7	7	7	4	1	0	59	T	Locomotive only
	768	10 01 27	00 01 41			E	8	9	9	2	1	0	23	T	Locomotive only
	769	10 01 27	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 768
	770	21 36 06	00 01 42				0	0	0	0	0	0	0	R	Empty move
	771	22 10 34	00 01 42	CN	259	WR	1	10	8	73	19	22	1125	TR	Freight Train
2003-03-12	772	04 15 09	00 07 07	CN	259	WR	2	12	7	88	22	30	1281	T	Freight Train
	773	04 29 41	00 02 17				0	0	0	0	0	0	0	R	Empty move
	774	05 18 55	00 03 31	CN	259	WR	2	10	7	44	11	10	646	TR	Freight Train
	775	05 31 45	00 02 49	CN	259	WR	4	8		20	5	5	289	T	Freight Train
	776	15 08 26	00 07 21			E	4	8	6	32	8	9	479	T	Freight Train
	777	15 34 14	00 01 23			E	5	5	5	8	2	0	95	T	Locomotive only
	778	15 46 27	00 02 18			WR	8	14	11	36	9	7	541	T	Freight Train
	779	16 04 26	00 02 12			WR	8	7	7	8	2	0	118	T	Locomotive only
	780	16 29 29	00 01 37				0	0	0	0	0	0	0	R	Empty move
	781	16 40 29	00 03 06	CN	259	WR	3	13	9	52	12	13	761	T	Freight Train
	782	17 25 22	00 06 49	CN	259	WR	2	13	8	72	18	21	1057	T	Freight Train
	783	17 37 40	00 01 12				0	0	0	0	0	0	0	R	Empty move
	784	18 15 57	00 01 51	GCFX	6038	WR	11	12	11	8	1	1	96	T	Locomotive only
	785	19 43 33	00 14 05	GCFX	6038	E	0	11	8	230	27	96	4896	T	Train with containers
2003-03-13	786	10 36 19	00 21 01	CN	5743	W	1	8	6	262	26	196	5649	T	Train with containers
	787	14 16 52	00 09 15	CN	5743	E	3	12	9	322	32	219	7086	T	Train with containers
	788	14 26 18	00 13 06			E	0	1	1	8	1	1	203	T	Locomotive only
	789	22 01 56	00 08 19	CN	5743	W	6	12	9	234	21	142	5135	T	Train with containers
	790	23 00 43	00 09 49	CN	5743	E	6	10	8	138	14	14	3055		Train with containers
	791	23 00 43	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 790
2003-03-14	792	01 22 56	00 01 21				0	0	0	0	0	0	0	R	Empty move
	793	04 04 24	00 01 21				0	0	0	0	0	0	0	R	Empty move
	794	04 08 49	00 02 43	CN	259	WR	1	6	3	8	2	2	112	T	Locomotive only
	795	04 14 34	00 06 05	CN	259	WR	1	9	7	84	21	23	1230	T	Freight Train
	796	04 21 39	00 02 10	CN	259	WR	3	8	5	9	2	2	112	T	Locomotive only
	797	04 42 02	00 08 11	CN	259	WR	0	11	8	76	19	18	1119	T	Freight Train
	798	05 29 04	00 07 03	CN	259	WR	2	12	6	72	18	20	1043	T	Freight Train
	799	05 36 50	00 02 05	CN	259	WR	2	10	5	8	2	2	112	T	Locomotive only
	800	08 26 35	00 02 14				0	0	0	0	0	0	0	R	Empty move
	801	15 57 30	00 01 39			E	6	11	7	36	9	8	555	T	Freight Train
	802	16 29 13	00 17 41			WR	6	8	7	36	10	7	555	T	Freight Train
	803	17 29 33	00 02 14				0	0	0	0	0	0	0	R	Empty move
	804	17 41 59	00 04 40	CN	259	WR	1	9	7	56	14	17	807	T	Freight Train
	805	19 03 40	00 03 41	CN	259	WR	3	9	7	52	13	14	758	T	Freight Train
	806	19 10 35	00 01 39				0	0	0	0	0	0	0	R	Empty move
2003-03-15	807	16 11 44	00 13 14	CN	9465	W	1	14	9	308	31	210	5825	T	Train with containers
	808	17 43 32	00 12 08	CN	4104	E	4	12	8	364	34	233	7373	T	Train with containers

Table 23 presents the information for these moves generated by the AEI station during the fourth week of tests.

Table 23 – Move information (week 4)

Date	Move	Move Time	Move Duration	Lead	Engine	Dir.		Speed		Axle	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2003-03-09	737	04 58 47	00 05 36	CN	4730	W	6	12	9	136	15	22	2743	T	Train with containers
	738	05 52 13	00 01 54	CN	7229	E	8	10	9	16	4	4	226	T	Locomotive only
	739	05 52 13	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 738
	740	10 01 23	00 03 12				0	0	0	0	0	0	0	R	Empty move
	741	10 10 21	00 12 31	CN	7249	WR	1	5	3	16	4	4	230	T	Freight Train
	742	10 25 03	00 08 48	CN	7249	W	3	10	7	104	26	26	1519	T	Freight Train
	743	10 34 22	00 05 59	CN	7249	E	1	7	4	102	26	26	1473	T	Freight Train
	744	11 41 09	00 09 31	CN	7249	WR	1	9	5	77	20	19	1122	T	Freight Train
	745	11 58 31	00 01 34				0	0	0	0	0	0	0	R	Empty move
	746	17 16 57	00 18 12	CN	2532	W	0	11	7	284	29	29	6313	T	Train with containers
	747	19 51 26	00 18 12	CN	2405	E	1	9	6	356	38	39	8085	T	Train with containers
2003-03-10	748	14 09 10	00 01 05				0	0	0	0	0	0	0	R	Empty move
	749	14 10 11	00 07 16			W	5	5	5	2	1	0	23	T	Locomotive only
	750	14 30 27	00 01 11			E	9	11	10	2	1	0	20	T	Locomotive only
	751	14 34 20	00 05 43			W	6	7	7	2	1	0	23	T	Locomotive only
	752	15 09 57	00 01 01			E	12	12	12	2	1	0	20	T	Locomotive only
	753	16 47 50	00 02 01				0	0	0	0	0	0	0	R	Empty move
	754	17 24 51	00 09 59	CN	7249	W	1	8	5	76	19	19	1112	T	Freight Train
	755	17 36 58	00 00 00				0	0	0	0	0	0	0	R	Empty move
	756	17 36 58	00 05 33	CN	7249	ES	1	7	5	76	20	19	1096	T	Freight Train
	757	21 50 06	00 06 45	CN	7249	WR	0	10	6	69	18	19	1060	TR	Freight Train
	758	22 12 12	00 01 08				0	0	0	0	0	0	0	R	Empty move
	759	22 14 36	00 01 40	CN	7249	WR	3	8	5	8	2	2	112	T	Locomotive only
	760	22 18 48	00 05 33				0	0	0	0	0	0	0	R	Empty move
	761	22 56 22	00 06 45	CN	5252	W	6	10	8	152	15	80	3153	T	Train with containers
2003-03-11	762	03 15 25	00 11 34	CN	5633	E	5	12	9	392	40	182	8092	TR	Train with containers
	763	06 44 00	00 01 46			E	5	8	7	32	8	6	453	T	Freight Train
	764	09 00 59	00 01 41			E	9	10	9	4	1	0	49	T	Locomotive only
	765	09 00 59	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 764
	766	09 25 29	00 02 56			W	5	11	8	44	11	9	669	T	Freight Train
	767	09 52 49	00 01 48			W	7	7	7	4	1	0	59	T	Locomotive only
	768	10 01 27	00 01 41			E	8	9	9	2	1	0	23	T	Locomotive only
	769	10 01 27	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 768
	770	21 36 06	00 01 42				0	0	0	0	0	0	0	R	Empty move
	771	22 10 34	00 01 42	CN	259	WR	1	10	8	73	19	22	1125	TR	Freight Train
2003-03-12	772	04 16 09	00 07 07	CN	259	WR	2	12	7	88	22	30	1283	T	Freight Train
	773	04 29 41	00 02 17				0	0	0	0	0	0	0	R	Empty move
	774	05 18 55	00 03 31	CN	259	WR	2	10	7	44	11	10	646	TR	Freight Train
	775	05 31 45	00 02 49	CN	259	WR	4	9	7	20	5	5	289	T	Freight Train
	776	15 08 26	00 07 21			E	6	8	6	32	8	9	479	T	Freight Train
	777	15 34 14	00 01 23			E	5	5	5	8	2	0	95	T	Locomotive only
	778	15 46 27	00 02 18			WR	8	14	11	36	9	7	541	T	Freight Train
	779	16 04 26	00 02 12			WR	5	7	7	8	2	0	118	T	Locomotive only
	780	16 29 29	00 01 37				0	0	0	0	0	0	0	R	Empty move
	781	16 40 29	00 03 06	CN	259	WR	3	13	9	52	13	13	761	T	Freight Train
	782	17 25 23	00 06 49	CN	259	WR	2	13	8	72	18	21	1057	T	Freight Train
	783	17 37 40	00 01 12				0	0	0	0	0	0	0	R	Empty move
	784	18 15 57	00 01 51	GCFX	6038	WR	11	12	11	6	1	1	66	T	Locomotive only
	785	19 43 33	00 14 05	GCFX	6038	E	0	11	8	230	27	98	4896	T	Train with containers
2003-03-13	786	10 26 19	00 21 01	CN	5743	W	1	8	6	262	26	195	5549	T	Train with containers
	787	14 16 52	00 09 15	CN	5743	E	3	12	9	322	32	219	7088	T	Train with containers
	788	14 26 18	00 13 06			E	0	1	1	8	1	1	203	T	Locomotive only
	789	22 01 59	00 08 19	CN	5743	W	8	12	9	234	21	142	5135	T	Train with containers
	790	23 00 43	00 09 49	CN	5743	E	6	10	8	138	14	14	3055		Train with containers
	791	23 00 43	00 00 00			E	0	0	0	0	0	0	0	R	Double move problem - 790
2003-03-14	792	01 22 58	00 01 21				0	0	0	0	0	0	0	R	Empty move
	793	04 04 24	00 01 21				0	0	0	0	0	0	0	R	Empty move
	794	04 08 49	00 02 43	CN	259	WR	1	5	3	8	2	2	112	T	Locomotive only
	795	04 14 34	00 06 05	CN	259	WR	1	9	7	84	21	23	1230	T	Freight Train
	796	04 21 39	00 02 10	CN	259	WR	0	8	5	8	2	2	112	T	Locomotive only
	797	04 42 02	00 08 11	CN	259	WR	0	11	8	76	19	18	1119	T	Freight Train
	798	05 29 04	00 07 03	CN	259	WR	2	12	6	72	18	20	1043	T	Freight Train
	799	05 36 50	00 02 05	CN	259	WR	2	10	5	8	2	2	112	T	Locomotive only
	800	08 26 35	00 02 14				0	0	0	0	0	0	0	R	Empty move
	801	15 57 33	00 01 39			E	5	11	7	36	9	8	555	T	Freight Train
	802	16 29 13	00 17 41			WR	6	8	7	36	10	7	555	T	Freight Train
	803	17 29 33	00 02 14				0	0	0	0	0	0	0	R	Empty move
	804	17 41 59	00 04 40	CN	259	WR	1	9	7	56	14	17	807	T	Freight Train
	805	19 03 40	00 03 41	CN	259	WR	3	9	7	52	13	14	758	T	Freight Train
	806	19 10 35	00 01 39				0	0	0	0	0	0	0	R	Empty move
2003-03-15	807	16 11 44	00 13 14	CN	9468	W	1	14	9	308	31	219	6825	T	Train with containers
	808	17 43 32	00 12 08	CN	4104	E	4	12	8	364	34	233	7973	T	Train with container

Weather conditions

During this test week, the temperatures were good and no snow precipitation was reported. The coldest temperature was -17°C, which did not cause any problems with the external equipment.

Table 24 – Weather conditions (week 4)

Day	Date	Time	Celsius	Winds (km/h)	Wind factor	Climate
Sunday	March 9th 2003	07:00:00				
Sunday	March 9th 2003	16:00:00	-11	33	-21	Sunny with clouds
Monday	March 10th 2003	08:00:00	-14	30	-25	Sunny with clouds
Monday	March 10th 2003	16:00:00	-12	33	-23	Sunny with clouds
Tuesday	March 11th 2003	07:00:00	-13	19	-21	Sunny with clouds
Tuesday	March 11th 2003	16:00:00	-3	44	-12	Cloudy
Wednesday	March 12th 2003	06:00:00	0	35	-7	Cloudy
Wednesday	March 12th 2003	16:00:00	-1	26	-7	Sunny with clouds
Thursday	March 13th 2003	07:00:00	-14	17	-22	Sunny with clouds
Thursday	March 13th 2003	16:00:00	-9	9		Sunny with clouds
Friday	March 14th 2003	07:00:00	-17	6	-24	Sunny with clouds
Friday	March 14th 2003	16:00:00				
Saturday	March 15th 2003	07:00:00				
Saturday	March 15th 2003	16:00:00	-1	6		Sunny with clouds

Results

Table 25 provides the OCR accuracy results for the fourth week of tests.

The minimum success rate that must be obtained to meet POM requirements is 80%. For week 4, the success rate for valid containers was 84.59%.

The success rate for all the containers was 73.34%.

Table 25 – Accuracy rate on moves with containers (week 4)

DTI **Acceptance Tests Form**

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2003-03-09	737	216	216	74	66	63,16%	36	17	63,16%	36	17	74,24%	49	6	12	9
2003-03-09	746	472	472	199	191	74,72%	133	21	80,11%	141	23	93,19%	178	0	11	7
2003-03-09	747	300	299	150	128	77,68%	87	38	63,56%	75	32	87,50%	112	1	9	6
2003-03-10	761	247	247	113	79	57,35%	39	45	17,65%	12	45	59,49%	47	6	10	8
2003-03-11	762	534	535	335	227	63,21%	122	142	28,90%	58	141	75,77%	172	5	12	9
2003-03-12	785	209	209	96	56	0,00%	0	49	0,00%	0	44	0,00%	0	0	11	8
2003-03-13	786	423	423	175	172	71,24%	109	22	78,21%	122	19	83,72%	144	1	8	6
2003-03-13	787	449	449	192	184	78,06%	128	28	84,28%	134	33	95,11%	175	3	12	9
2003-03-13	789	381	381	122	119	82,00%	82	22	82,24%	88	15	94,96%	113	8	12	9
2003-03-13	790	208	208	106	101	82,42%	75	15	85,71%	78	15	96,04%	97	6	10	8
2003-03-15	807	523	523	190	180	72,67%	117	29	83,02%	132	31	95,00%	171	1	14	9
2003-03-15	806	503	504	202	191	83,65%	133	43	82,82%	135	39	91,62%	175	4	12	8

Move 737 : MWCU problem identification. INO sent a new version of the OCR program to DTI, March 11, 2003.
Move 761, 762 : OCR proplem to determine the direction of the train. INO sent a new version of the OCR program to DTI, March 11, 2003.
Move 785 : Many speed variations from 0 to 11 ans 11 to 0. The average speed was 8. TC64 did not adjust the capture of the images as fasto follow the variation of that train.

SUMMARY

Total # of containers: 1954
Total # of valid containers : 1694

Total # of code found CAM 1: 1061
Total # of code found CAM 2: 1011
Total # of code found PoM: 1433

# of perfect match code :
% of perfect match code :

INVALIDITY

Total # of invalid containers C1 : 471
Total # of invalid containers C2 : 454
Total # of invalid containers : 260

Invalidity rate C1 : 24,10%
Invalidity rate C2 : 23,23%
Global invalidity rate : 13,31%

SPEED

Min speed :
Max. speed :
Average speed :

PoM	Mean Accuracy/all cont.	73,34%
	Mean Accuracy/valid cont.	84,59%
Cam 1	Mean Accuracy/all cont. C1	54,30%
	Mean Accuracy/valid cont. C1	71,54%
Cam 2	Mean Accuracy/all cont. C2	51,74%
	Mean Accuracy/valid cont. C2	67,40%

Table 26 provides the processing times for the moves that were analysed during the fourth week of tests.

Four train moves had processing times exceeding 20 minutes. Moves 746 and 747 had a time of 01:00:25 and 01:03:26 because the OCRail application failed on both Corails. Move 786 had a time of 00:23:45 because the move duration was 00:21:01. It is impossible to have a processing time that is less than the time it takes for a train to pass. Move 808 had a processing time of 00:20:50 because there was no EoT.

Table 26 – Processing times (week 4)

Date	Move no	Speed			Length	Total of containers	Move time	Move duration	End process time	Process duration	Performance flag	Comments
		Min	Max	Average								
2003-03-09	737	6	12	9	2743	74	04 58 47	00 05 36	05 06 18	00 07 31	1	
2003-03-09	746	0	11	7	6313	199	17 16 57	00 15 11	18 17 22	01 00 25	0	OCR failed on both CORAIL
2003-03-09	747	1	9	6	8085	150	19 51 26	00 18 12	20 54 52	01 03 26	0	OCR failed on both CORAIL
2003-03-10	761	6	10	8	3153	113	22 56 22	00 06 45	23 04 50	00 08 28	1	
2003-03-11	762	5	12	9	8092	335	03 15 25	00 11 34	03 35 46	00 20 21	1	
2003-03-12	785	0	11	8	4896	96	19 43 33	00 14 05	19 57 46	00 14 13	1	
2003-03-13	786	1	8	6	5549	175	10 26 19	00 21 01	10 50 04	00 23 45	0	Move duration 21 01
2003-03-13	787	3	12	9	7088	192	14 16 52	00 09 15	14 29 12	00 12 20	1	
2003-03-13	789	8	12	9	5135	122	22 01 59	00 08 19	22 12 28	00 10 29	1	
2003-03-13	790	6	10	8	3055	106	23 00 43	00 09 49	23 13 30	00 12 47	1	
2003-03-15	807	1	14	9	6825	190	16 11 44	00 13 14	16 27 00	00 15 16	1	
2003-03-15	808	4	12	8	7973	202	17 43 32	00 12 08	18 04 22	00 20 50	0	No end of train

Number of moves : 12
Respect of criterias : 8
Process time performance : 66.67%

Modifications

Modifications had to be made to solve the following problems:

1) Double moves with the same time
Several train moves appeared twice. The wheel sensors were checked, and the east wheel sensor was found to be defective. Wheel sensor F1 was replaced, and F1 and F2 were adjusted on March 19th 2003 by CCTC.

2) GLDU codes were identified incorrectly
The codes starting with GLDU were being identified as GLOU. INO modified the OCRail software on March 10th 2003, so that when a code was detected as GLOU but with a check digit that matched a GLDU code, the code would be replaced with the correct one. DTI installed the new version at POM on March 11th 2003.

3) MWCU codes were identified incorrectly
The MWCU codes were being identified incorrectly as MJCU, MUCU, MVCU, MZCU, UJCU, UUCU, UVCU, VJCU, VUCU, VVCU and WVCU. INO had modified the OCRail software on March 12th 2003, so that when a code was detected as MJCU, MUCU, MVCU, MZCU, UJCU, UUCU, UVCU, VJCU, VUCU, VVCU or WVCU but with a check digit that matched a MWCU code, the code would be replaced with the correct one. DTI installed the new version at POM on March 14th 2003.

4) MAEU codes were identified incorrectly
The MAEU codes were being identified incorrectly as AAEU. INO modified the OCRail software on March 12th so that when a code was detected as AAEU but with a check digit that matched a MAEU code, the code would be replaced with the correct one. DTI installed the new version at POM on March 14th 2003.

Results

Table 25 provides the OCR accuracy results for the fourth week of tests.

The minimum success rate that must be obtained to meet POM requirements is 80%. For week 4, the success rate for valid containers was 84.59%.

The success rate for all the containers was 73.34%.

Table 25 – Accuracy rate on moves with containers (week 4)

DTI **Acceptance Tests Form**

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
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2003-03-10	761	247	247	113	79	57.35%	39	45	17.65%	12	45	59.49%	47	6	10	8
2003-03-11	762	534	535	335	227	63.21%	122	142	29.90%	58	141	75.77%	172	6	12	9
2003-03-12	785	209	209	96	56	0.00%	0	49	0.00%	0	44	0.00%	0	0	11	8
2003-03-13	786	423	423	175	172	71.24%	109	22	78.21%	122	19	83.72%	144	1	9	6
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2003-03-13	789	381	381	122	119	82.00%	82	22	82.24%	88	15	94.96%	113	8	12	9
2003-03-13	790	208	208	106	101	82.42%	75	15	85.71%	78	15	96.04%	97	6	10	8
2003-03-15	807	523	523	190	180	72.67%	117	29	83.02%	132	31	95.00%	171	1	14	9
2003-03-15	808	503	504	202	191	83.65%	133	43	82.82%	135	39	91.62%	175	4	12	8

Move 737 : MWCU problem identification. INO sent a new version of the OCR program to DTI, March 11, 2003.
Move 761, 762 : OCR proplem to determine the direction of the train. INO sent a new version of the OCR program to DTI, March 11, 2003.
Move 785 : Many speed variations from 0 to 11 ans 11 to 0. The average speed was 8. TC64 did not adjust the capture of the images as fasto follow the variation of that train.

SUMMARY

		INVALIDITY		SPEED
Total # of containers:	1954	Total # of invalid containers C1	471	Min speed
Total # of valid containers:	1694	Total # of invalid containers C2	454	Max speed
		Total # of invalid containers	260	Average speed
Total # of code found CAM 1:	1061	Invalidity rate C1:	24.10%	
Total # of code found CAM 2:	1011	Invalidity rate C2:	23.23%	
Total # of code found PoM:	1433	Global invalidity rate:	13.31%	

# of perfect match code :
% of perfect match code :

PoM	Mean Accuracy/all cont.	73.34%
	Mean Accuracy/valid cont.	84.59%
Cam 1	Mean Accuracy/all cont. C1	54.30%
	Mean Accuracy/valid cont. C1	71.54%
Cam 2	Mean Accuracy/all cont. C2	51.74%
	Mean Accuracy/valid cont. C2	67.40%

Table 26 provides the processing times for the moves that were analysed during the fourth week of tests.

Four train moves had processing times exceeding 20 minutes. Moves 746 and 747 had a time of 01:00:25 and 01:03:26 because the OCRail application failed on both Corails. Move 786 had a time of 00:23:45 because the move duration was 00:21:01. It is impossible to have a processing time that is less than the time it takes for a train to pass. Move 808 had a processing time of 00:20:50 because there was no EoT.

Table 26 – Processing times (week 4)

Date	Move no	Speed Min	 Max	 Average	Length	Total of containers	Move time	Move duration	End process time	Process duration	Performance flag	Comments
2003-03-09	743	6	12	9	2743	74	04:58:47	00:06:36	05:06:18	00:07:31	1	
2003-03-09	746	3	11	7	6313	109	17:16:57	00:16:11	18:17:22	01:00:25	0	OCR failed on both CORAIL
2003-03-09	747	1	9	6	8085	160	19:51:26	00:18:12	20:54:52	01:03:26	0	OCR failed on both CORAIL
2003-03-10	751	8	10	9	3163	71	22:56:22	00:06:45	23:04:50	00:08:28	1	
2003-03-11	762	5	12	9	8092	335	03:10:25	00:17:34	03:35:46	[illegible]	1	
2003-03-12	785	3	11	8	4896	96	19:43:33	00:14:05	19:57:46	00:14:13	1	
2003-03-13	786	1	8	6	5548	175	10:26:19	00:21:01	10:50:04	00:23:45	0	Move duration 21:01
2003-03-13	787	1	10	9	7069	192	14:15:52	00:09:16	14:29:10	00:14:20	1	
2003-03-13	789	8	10	9	6135	122	22:01:59	00:08:19	22:12:28	00:10:29	1	
2003-03-13	790	8	10	8	3055	106	23:00:43	00:09:49	23:13:30	00:12:47	1	
2003-03-15	807	1	14	9	6625	150	18:11:44	00:13:14	18:27:00	00:15:16	1	
2003-03-15	808	4	12	8	7973	220	17:43:32	00:12:28	18:04:22	00:20:50	0	No end of train

Number of moves	12
Respect of criterias	8
Process time performance	66.67%

Modifications

Modifications had to be made to solve the following problems:

1) Double moves with the same time

Several train moves appeared twice. The wheel sensors were checked, and the east wheel sensor was found to be defective. Wheel sensor F1 was replaced, and F1 and F2 were adjusted on March 19th 2003 by CCTC.

2) GLDU codes were identified incorrectly

The codes starting with GLDU were being identified as GLOU. INO modified the OCRail software on March 10th 2003, so that when a code was detected as GLOU but with a check digit that matched a GLDU code, the code would be replaced with the correct one. DTI installed the new version at POM on March 11th 2003.

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4) MAEU codes were identified incorrectly

The MAEU codes were being identified incorrectly as AAEU. INO modified the OCRail software on March 12th so that when a code was detected as AAEU but with a check digit that matched a MAEU code, the code would be replaced with the correct one. DTI installed the new version at POM on March 14th 2003.

5) Bulkhead platform cars were not detected

When several containers passed on a bulkhead platform car, the OCRail software only managed to detect the first one because there was not enough space between each platform. INO modified the OCRail software on March 11th 2003 to make it more sensitive to these spaces when detecting containers. DTI installed the new version at POM on the same day.

6 AEI/OCR SYSTEM ACCEPTANCE TESTS

Final acceptance tests were carried out after the AEI/OCR system performance parameters had been met and demonstrated in the preliminary tests. DTI then performed operational and performance tests to formally demonstrate the performance specified in the contract. The tests were performed over a fixed duration of two weeks. DTI prepared an acceptance test plan and test procedures, and identified the acceptance test criteria, test environment and pass/fail criteria. The test results were compared to the test acceptance criteria to show whether the tested requirement was met.

The acceptance tests were performed on a fully integrated system to demonstrate the compatibility, functionality and performance of the AEI/OCR system. This activity consisted of two weeks of acceptance tests to measure the system's final performance. Data was collected, compiled and analysed every workday.

The acceptance tests took place from 00:01 a.m. on March 16th 2003 to 23:59 p.m. on March 29th 2003 at a site located near elevator no. 5 at POM.

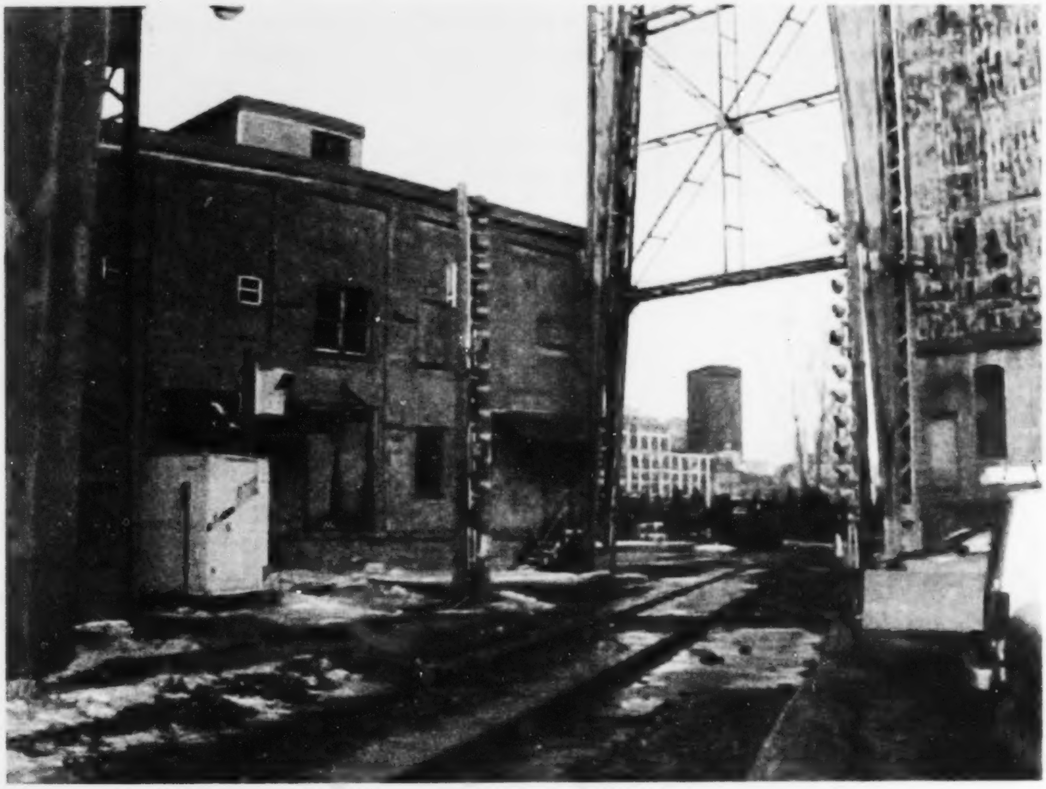


Figure 45 – Picture of site near elevator no. 5

6.1 System Configuration

6.1.1 Revised Architecture of AEI/OCR System

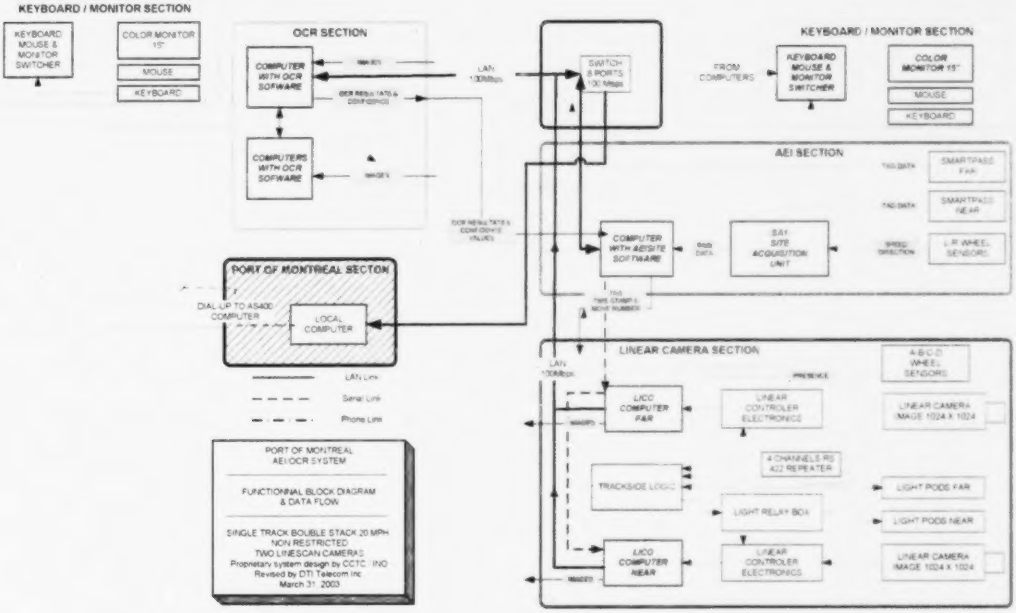

KEYBOARD / MONITOR SECTION
KEYBOARD MOUSE & MONITOR SWITCHER
COLOR MONITOR 15"
MOUSE
KEYBOARD
OCR SECTION
COMPUTER WITH OCR SOFWARE
COMPUTERS WITH OCR SOFWARE
IMAGES
OCR RESULTATS & CONFIDENCE
LAN 100Mbps
OCR RESULTATS & CONFIDENCE VALUES
SWITCH 8 PORTS 100 Mbps
FROM COMPUTERS
KEYBOARD / MONITOR SECTION
KEYBOARD MOUSE & MONITOR SWITCHER
COLOR MONITOR 15"
MOUSE
KEYBOARD
AEI SECTION
TAG DATA
SMARTPASS FAR
TAG DATA
SMARTPASS NEAR
COMPUTER WITH AEISITE SOFTWARE
RAW DATA
SA1 SITE ACQUISITION UNIT
SPEED DIRECTION
L-R WHEEL SENSORS
TAG TIME STAMP & MOVE NUMBER
PORT OF MONTREAL SECTON
DIAL-UP TO AS400 COMPUTER
LOCAL COMPUTER
LAN Link
Serial Link
Phone Link
LINEAR CAMERA SECTION
LAN 100Mbps
PRESENCE
A-B-C-D WHEEL SENSORS
LICO COMPUTER FAR
IMAGES
LINEAR CONTROLER ELECTRONICS
LINEAR CAMERA IMAGE 1024 X 1024
4 CHANNELS RS 422 REPEATER
TRACKSIDE LOGIC
LIGHT PODS FAR
LIGHT RELAY BOX
LIGHT PODS NEAR
LICO COMPUTER NEAR
IMAGES
LINEAR CONTROLER ELECTRONICS
LINEAR CAMERA IMAGE 1024 X 1024
PORT OF MONTREAL AEI/OCR SYSTEM
FUNCTIONNAL BLOCK DIAGRAM & DATA FLOW
SINGLE TRACK BOUBLE STACK 20 MPH NON RESTRICTED
TWO LINESCAN CAMERAS
Proprietary system design by CCTC - INO
Revised by DTI Telecom inc
March 31, 2003

Figure 46– Plan of revised architecture

6.1.2 Reviewed LAN Topology

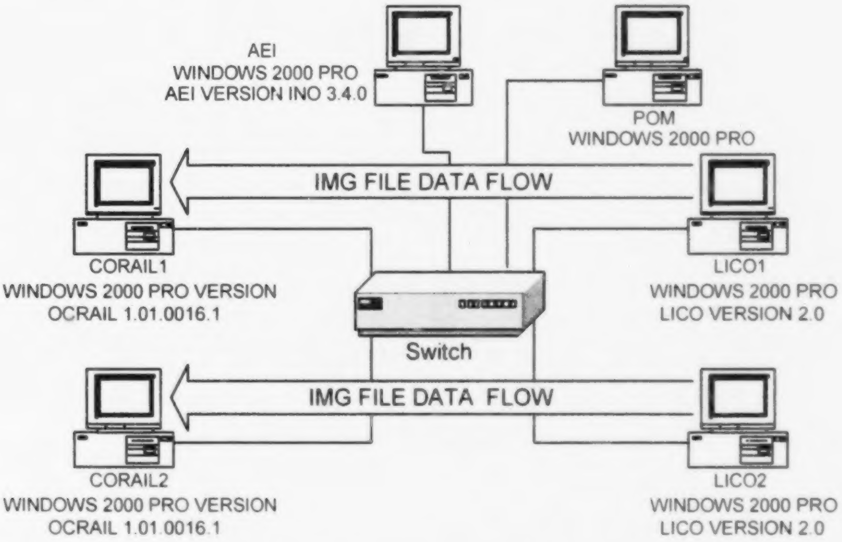

AEI
WINDOWS 2000 PRO
AEI VERSION INO 3.4.0
POM
WINDOWS 2000 PRO
IMG FILE DATA FLOW
CORAIL1
WINDOWS 2000 PRO VERSION
OCRAIL 1.01.0016.1
LICO1
WINDOWS 2000 PRO
LICO VERSION 2.0
Switch
IMG FILE DATA FLOW
CORAIL2
WINDOWS 2000 PRO VERSION
OCRAIL 1.01.0016.1
LICO2
WINDOWS 2000 PRO
LICO VERSION 2.0

Figure 47 – Plan of new topology

6.1.3 Description of Changes Introduced to System

The following is a list of approved changes made to the system configuration (dated January 2003):

1. New hardware configuration for all personal computers;
2. Upgrade of the operating system for all computers to MS-Windows 2000 Pro;
3. 3COM network interface card on all computers;
4. Hard drive defragmentation software on all computers;
5. Two hard drives on each Corail station (the second one is only used to run the OCR application software);
6. Two new 1.5-kVA UPSs.

6.2 Control Process During the Test Period at POM Site

The acceptance tests were supervised by DTI with the ad hoc collaboration of CCTC.

Since POM had deactivated all telephone lines connected to the site, DTI visited the site on the morning of each business day to verify the condition of the system/hardware and collect the previous day's data.

DTI requested CCTC's help to solve a wheel sensor problem. DTI also requested INO's help to solve a minor OCR problem during the first week of the acceptance tests.

6.3 Weather Conditions

Table 27 summarizes the weather conditions observed at Montreal's Dorval Airport during this period and presents them by time slot.

Table 27 – Weather conditions (by time slot)

DATE	HOUR	WIND AVERAGE SPEED (KM/H)	TEMP. (C)	HUMIDITY (%)	SKY
2003-03-16	06H-12H	10,86	-4	67,28	Variable cloudiness
	13H-19H	5,6	4,14	51,57	Variable cloudiness
	20H-05H	6,57	2,11	65,88	Variable cloudiness
2003-03-17	06H-12H	10,14	1,71	68,86	Variable cloudiness
	13H-19H	13,29	3,71	63,71	Variable cloudiness
	20H-05H	9,88	1,11	68,55	Cloudy
2003-03-18	06H-12H	11	1,16	52	Variable cloudiness
	13H-19H	12,57	3,29	32,14	Variable cloudiness
	20H-05H	23,2	-3,4	36,5	Sunny
2003-03-19	06H-12H	21,14	-5,57	40,14	Sunny
	13H-19H	17,85	-0,57	36,14	Variable cloudiness
	20H-05H	13,6	-4,3	45,9	Sunny
2003-03-20	06H-12H	13,43	-3,86	57,57	Glaze
	13H-19H	10,43	1	77,14	Showers
	20H-05H	11,8	2,4	78,8	Showers
2003-03-21	06H-12H	14,6	2,8	83	Cloudy
	13H-19H	10	5,57	74,43	Variable cloudiness
	20H-05H	6,11	2,9	79	Variable cloudiness
2003-03-22	06H-12H	9,67	3	79,5	Showers
	13H-19H	9,33	3,5	81	Showers
	20H-05H	17,4	2,1	78,7	Showers
2003-03-23	06H-12H	11,33	1,86	78,57	cloudy
	13H-19H	7,29	3,86	69,29	Cloudy
	20H-05H	6,25	1,6	78	Variable cloudiness
2003-03-24	06H-12H	14	2,86	72,86	Variable cloudiness
	13H-19H	11	6,71	61,71	Variable cloudiness
	20H-05H	6,25	1,6	78	Variable cloudiness
2003-03-25	06H-12H	9,4	6,4	68,6	Variable cloudiness
	13H-19H	10,5	8,14	71,43	Showers
	20H-05H	12,63	4,7	83,4	Cloudy
2003-03-26	06H-12H	11,86	4,71	79,43	Cloudy
	13H-19H	16	7,43	63,71	Cloudy
	20H-05H	15,1	2,2	67,1	Variable cloudiness
2003-03-27	06H-12H	43,43	3,29	67,29	Variable cloudiness
	13H-19H	20,29	6,57	48,86	Variable cloudiness
	20H-05H	6,75	2,11	59,44	Variable cloudiness
2003-03-28	06H-12H	17	1,33	56,33	Cloudy
	13H-19H	14,5	9,33	51,17	Variable cloudiness
	20H-05H	26,8	10,2	51,8	Variable cloudiness
2003-03-29	06H-12H	26,13	11,75	71,75	Cloudy
	13H-19H	25,57	8,57	81,14	Showers
	20H-12H	21,4	5,2	66,2	Cloudy

The tests were conducted under winter conditions, according to the data collected, during the last two weeks of March 2003. Environment Canada (Dorval) recorded precipitation on only four days out of a total of 14. Moreover, during this period, the majority of each day was cloudy or partially cloudy. There were only two days with a clear sky during this period.

The average temperatures recorded during this period ranged from a minimum of -7°C to a maximum of 14°C.

To summarize, the weather was relatively clement and had little impact of the containers, the installer equipment, or the images captured by the cameras.

6.4 Trains Observed

During the test period, 116 train moves were observed (from 809 to 927). Table 28 provides a classification of these moves.

Table 28 – Classification of observed moves (acceptance tests)

Type of train	# of trains	%
Simulation	2	1.72
Empty move	26	22.41
Locomotive only	21	18.10
Train without containers	0	0.00
Train with containers	26	22.41
Freight train	41	35.34
Total # of trains	116	100.00

The 26 trains with containers (or 22.41% of the observed moves) were used in the character recognition accuracy analysis.

Table 29 presents the information for these moves generated by the AEI station during the test period and the comments on the type of move observed.

Twenty-six of these moves were identified as empty ones. Some of these moves were probably initiated by the inadvertent activation of the wheel sensors. An investigation is required to determine the problem and find a suitable solution.

Table 29 – Move information (acceptance tests)

DTI

Date	Move	Move	Move	Lead	Engine	Dir	Speed			Axle	Cars	Tags	Lenght	xTra	Comments
		Time	Duration				Min	Max	Average						
2003-03-16	809	11 19 04	00 01 11				0	0	0	0	0	0	0	R	Empty move
	810	11 45 43	00 05 52	CN	259	WR	1	10	7	80	20	21	1171	T	Freight Train
	811	12 27 48	00 05 50	CN	259	WR	1	12	8	84	21	22	1234	T	Freight Train
	812	12 38 22	00 01 16				0	0	0	0	0	0	0	R	Empty move
	813	20 46 19	00 10 37	CN	4112	WR	2	11	9	244	25	175	5473	T	Train with containers
	814	21 35 36	00 01 46	CN	4102	E	8	10	9	8	2	2	112		Locomotive only
	815	21 35 36	00 00 00				0	0	0	0	0	0	0	R	Double move problem - 814
2003-03-17	816	16 38 19	00 02 21			E	4	7	6	24	6	4	361	T	Freight Train
	817	16 38 19	00 00 00				0	0	0	0	0	0	0	R	Double move problem - 816
	818	16 48 03	00 01 52	CN	4104	W	11	11	11	8	2	2	115		Locomotive only
	819	17 22 08	00 05 10	CN	9468	E	3	10	9	164	19	99	3813	TR	Train with containers
	820	17 27 20	00 07 28			E	2	9	6	16	2	2	308		Empty move
	821	17 46 31	00 02 20			W	7	8	7	20	5	3	318	T	Freight Train
	822	18 25 14	00 00 00				0	0	0	0	0	0	0	R	Empty move
	823	18 58 01	00 01 05	CN	259	WR	1	13	9	88	22	24	1293	T	Freight Train
	824	19 43 47	00 06 08	CN	259	WR	1	12	8	96	24	24	1404	T	Freight Train
	825	19 52 52	00 00 00				0	0	0	0	0	0	0	R	Empty move
2003-03-18	826	05 42 19	00 13 31	CN	259	W	2	12	10	244	24	172	5171	T	Train with containers
	827	06 20 59	00 01 03	CN	7249	E	9	10	9	8	2	2	112	T	Locomotive only
	828	14 42 41	00 07 37	CN	5545	W	7	13	11	224	23	176	4837	T	Train with containers
	829	15 17 48	00 01 47	CN	2427	E	9	11	10	12	2	2	144		Locomotive only
	830	00 17 48	00 01 47				0	0	0	0	0	0	0	R	Empty move
	831	16 30 17	00 01 32				0	0	0	0	0	0	0	R	Empty move
	832	16 58 19	00 06 31	CN	259	WR	0	10	7	80	20	20	1168	T	Freight Train
	833	18 07 28	00 06 07	CN	259	WR	2	10	6	88	22	24	1293	T	Freight Train
	834	18 33 38	00 01 53				0	0	0	0	0	0	0	R	Empty move
2003-03-19	835	06 43 54	00 06 07			E	5	6	6	16	4	2	230	T	Freight Train
	836	06 43 54	00 00 00				0	0	0	0	0	0	0	R	Double move problem - 835
	837	07 18 45	00 16 23			WR	6	8	7	16	4	4	236	T	Freight Train
	838	08 14 09	00 01 33				0	0	0	0	0	0	0	R	Simulation
	839	08 14 09	00 01 33				0	0	0	0	0	0	0	R	Simulation
	840	09 28 30	00 01 33				0	0	0	0	0	0	0	R	Empty move
	841	13 12 23	00 05 51	CN	5744	W	9	13	10	186	16	122	3993	T	Train with containers
	842	15 55 59	00 18 36	CN	5744	E	0	10	7	434	44	42	9821	T	Train with containers
	843	16 21 45	00 01 03			W	9	9	9	4	1	0	56	T	Locomotive only
	844	18 38 20	00 01 36				0	0	0	0	0	0	0	R	Empty move
	845	18 54 33	00 10 41	CN	259	WR	0	6	3	12	3	3	171	T	Freight Train
	846	19 06 18	00 06 19	CN	259	WR	3	10	8	92	23	23	1349	T	Freight Train
	847	21 27 02	00 06 31	CN	259	WR	1	11	7	88	22	22	1296	T	Freight Train
	848	21 36 31	00 01 35				0	0	0	0	0	0	0	R	Empty move
2003-03-20	849	02 56 02	00 01 05	CN	259	W	10	12	11	8	2	2	112	T	Locomotive only
	850	04 16 25	00 04 54	CN	7249	E	5	11	9	156	16	16	2999	T	Train with containers
	851	16 04 25	00 10 20	CN	7232	W	1	12	9	292	24	202	5975	T	Train with containers
	852	16 47 47	00 01 37				0	0	0	0	0	0	0	R	Empty move
	853	16 54 25	00 01 11	CN	4720	E	8	9	8	8	2	2	115		Locomotive only
	854	17 16 13	00 04 01	CN	259	WR	1	14	9	65	17	17	948	TR	Freight Train
	855	18 45 02	00 10 08	CN	259	WR	1	12	6	88	22	23	1296	T	Freight Train
	856	18 55 21	00 02 50	CN	259	WR	4	9	7	20	5	4	295	T	Freight Train
2003-03-21	857	04 28 01	00 01 05	CN	259	W	11	12	11	8	2	2	112	T	Locomotive only
	858	05 10 03	00 27 15	CN	7249	E	2	10	8	144	17	49	3130	T	Train with containers
	859	06 44 55	00 01 27			E	6	9	8	20	5	4	289	T	Locomotive only
	860	07 55 41	00 01 37			W	7	10	9	28	7	6	443	T	Freight Train
	861	12 55 46	00 07 33	CN	7019	W	6	13	10	224	24	174	4902	T	Train with containers
	862	13 23 33	00 01 01			E	8	8	8	2	1	0	26	T	Locomotive only
	863	15 47 50	00 14 40	CN	7232	E	2	7	6	228	22	159	4896	T	Train with containers
	864	20 13 22	00 00 00				0	0	0	0	0	0	0	R	Empty move
	865	20 18 32	00 11 45	CN	259	WR	1	8	5	64	16	21	938	T	Freight Train
	866	21 48 34	00 09 24	CN	259	WR	1	8	6	56	14	17	817	TR	Freight Train
	867	22 04 47	00 01 35				0	0	0	0	0	0	0	R	Empty move
2003-03-22	868	23 14 48	00 04 43	CN	7235	W	7	12	9	140	16	87	3616	T	Train with containers

Table 29 (continued) – Move information (acceptance tests)

DTI

Date	Move	Move Time	Move Duration	Lead	Engine	Dir	Speed			Axle	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2003-03-23	869	00 21 04	00 35 10	CN	7232	E	1	9	6	276	25	66	5834	T	Train with containers
2003-03-23	870	12 12 00	00 09 56	CN	259	WR	2	9	5	52	13	16	751	T	Freight Train
2003-03-23	871	12 34 20	00 07 34	CN	259	WR	0	10	7	68	17	16	1014	TR	Freight Train
2003-03-23	872	12 50 46	00 03 21	CN	259	WR	2	13	9	52	13	14	761	T	Freight Train
2003-03-24	873	16 27 58	00 08 27	CN	5545	W	8	13	10	280	28	202	6287	T	Train with containers
2003-03-24	874	17 38 35	00 14 16	CSXT	8831	E	2	12	8	400	35	283	8512	T	Train with containers
2003-03-24	875	18 21 39	00 01 11				0	0	0	0	0	0	0	R	Empty move
2003-03-24	876	18 35 13	00 03 45	CN	259	WR	3	10	8	48	12	12	699	T	Freight Train
2003-03-24	877	19 47 01	00 10 45	CN	259	WR	1	9	5	48	12	13	702	T	Freight Train
2003-03-24	878	20 00 37	00 01 12				0	0	0	0	0	0	0	R	Empty move
2003-03-25	879	04 06 54	00 01 14	CN	259	W	8	9	8	8	2	2	112	T	Locomotive only
2003-03-25	880	04 47 25	00 04 56	CN	7249	E	5	8	6	120	14	86	3212	T	Train with containers
2003-03-25	881	07 55 27	00 01 37			E	5	7	6	20	5	3	285	T	Freight Train
2003-03-25	882	10 23 39	00 01 37			W	7	10	8	24	6	4	374	T	Freight Train
2003-03-25	883	11 26 20	00 01 14			E	5	5	5	2	1	0	26	T	Locomotive only
2003-03-25	884	15 51 31	00 05 51	CN	7200	W	9	15	11	224	25	132	4492	T	Train with containers
2003-03-25	885	16 51 06	00 04 55	CN	7248	E	7	11	9	168	15	100	3271	T	Train with containers
2003-03-25	886	19 04 54	00 03 07	CN	259	WR	1	12	7	24	6	6	345	T	Freight Train
2003-03-25	887	19 25 54	00 12 00	CN	259	WR	1	13	8	100	25	25	1460	T	Freight Train
2003-03-25	888	23 07 09	00 32 27	CN	259	WR	1	9	6	120	30	34	1769	TR	Freight Train
2003-03-26	889	15 57 31	00 17 29	CN	2437	W	1	10	7	368	37	251	7786	T	Train with containers
2003-03-26	890	18 03 29	00 12 01	CN	2668	E	4	10	8	332	32	242	7153	T	Train with containers
2003-03-26	891	18 35 54	00 02 40	CN	259	WR	5	11	7	12	3	3	177	T	Freight Train
2003-03-26	892	18 52 09	00 04 23	CN	259	WR	3	13	9	80	20	24	1185	T	Freight Train
2003-03-26	893	19 37 37	00 06 30	CN	259	WR	1	10	6	80	20	25	1165	T	Freight Train
2003-03-26	894	19 44 26	00 01 43	CN	259	WR	4	7	6	4	1	1	56	R	Locomotive only
2003-03-26	895	19 52 28	00 01 27				0	0	0	0	0	0	0	R	Empty move
2003-03-27	896	05 31 29	00 01 05	CN	259	W	11	12	11	8	2	2	112	T	Locomotive only
2003-03-27	897	06 03 15	00 02 26	CN	7249	E	9	11	10	64	7	32	1309	T	Train with containers
2003-03-27	898	07 35 31	00 01 35			E	7	9	8	28	7	6	400	T	Freight Train
2003-03-27	899	08 24 11	00 01 35			W	7	9	8	24	6	4	364	T	Freight Train
2003-03-27	900	18 28 45	00 01 42				0	0	0	0	0	0	0	R	Empty move
2003-03-27	901	18 36 46	00 02 41	CN	259	WR	5	11	8	36	9	10	525	T	Freight Train
2003-03-27	902	19 47 19	00 04 44	CN	259	WR	1	9	6	49	13	14	712	T	Freight Train
2003-03-27	903	19 53 37	00 00 54				0	0	0	0	0	0	0	R	Empty move
2003-03-27	904	19 56 41	00 01 11				0	0	0	0	0	0	0	R	Empty move
2003-03-27	905	20 00 25	00 01 39	CN	259	WR	3	7	5	8	2	2	112	T	Locomotive only
2003-03-27	906	20 03 03	00 01 23				0	0	0	0	0	0	0	R	Empty move
2003-03-27	907	20 06 10	00 01 57	CN	259	WR	1	8	6	13	4	3	180	T	Freight Train
2003-03-28	908	06 34 35	00 08 28	CN	7200	W	7	9	7	212	19	150	4850	T	Train with containers
2003-03-28	909	07 23 48	00 01 09	CN	7248	E	9	10	10	12	3	3	158		Locomotive only
2003-03-28	910	09 07 28	00 01 33			W	15	15	15	1	1	0	13	T	Locomotive only
2003-03-28	911	09 07 28	00 00 00				0	0	0	0	0	0	0	R	Empty move
2003-03-28	912	14 36 31	00 01 04				0	0	0	0	0	0	0	R	Empty move
2003-03-28	913	17 04 09	00 01 19			E	6	8	7	8	2	0	105	T	Locomotive only
2003-03-28	914	17 29 39	00 01 26			W	5	5	5	8	2	0	115	T	Locomotive only
2003-03-28	915	18 22 35	00 01 16				0	0	0	0	0	0	0	R	Empty move
2003-03-28	916	18 53 42	00 05 44	CN	2671	W	7	11	8	160	14	101	3281	T	Train with containers
2003-03-28	917	19 01 01	00 01 23				0	0	0	0	0	0	0	R	Empty move
2003-03-28	918	19 02 48	00 04 03	CN	7200	WR	4	12	9	80	20	24	1158	T	Freight Train
2003-03-28	919	20 23 40	00 03 38	CN	2421	E	8	10	9	116	11	59	2057	T	Train with containers
2003-03-28	920	21 54 36	00 04 58	CN	7200	WR	3	9	7	60	15	15	863	T	Freight Train
2003-03-28	921	22 00 29	00 01 42				0	0	0	0	0	0	0	R	Empty move
2003-03-29	922	12 00 35	00 01 49			E	5	7	6	24	6	5	368	T	Freight Train
2003-03-29	923	12 43 32	00 01 46			W	6	8	7	28	7	5	413	T	Freight Train
2003-03-29	924	17 52 18	00 14 58	CN	7019	W	2	10	8	340	33	253	8042	T	Train with containers
2003-03-29	925	18 35 13	00 01 10	CN	4730	E	8	9	9	8	2	2	115		Locomotive only
2003-03-29	926	19 42 32	00 01 07	CN	7019	W	9	10	9	8	2	2	115		Locomotive only
2003-03-29	927	20 19 58	00 03 54	CN	4730	E	7	10	8	104	9	68	2153	T	Train with containers

Table 29 – Move information (acceptance tests)

DTI

Date	Move	Move Time	Move Duration	Lead	Engine	Dir.	Speed			Axle	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2003-03-16	809	11 [illegible] 04	00 01 11				0	0	0	0	0	0	0	R	Empty move
	810	11 45 43	00 05 52	CN	259	WR	1	10	7	80	20	21	1171	T	Freight Train
	811	12 27 48	00 05 50	CN	259	WR	1	12	8	84	21	22	1234	T	Freight Train
	812	12 38 22	00 01 16				0	0	0	0	0	0	0	R	Empty move
	813	20 46 19	00 10 37	CN	4112	WR	2	11	9	244	25	175	5473	T	Train with containers
	814	21 35 36	00 01 46	CN	4102	E	8	10	9	8	2	2	112		Locomotive only
	815	21 35 36	00 00 00				0	0	0	0	0	0	0	R	Double move problem : 814
2003-03-17	816	16 38 19	00 02 21			E	4	7	6	24	6	4	361	T	Freight Train
	817	16 38 19	00 00 00				0	0	0	0	0	0	0	R	Double move problem : 816
	818	16 48 03	00 01 52	CN	4104	W	11	11	11	8	2	2	115		Locomotive only
	819	17 22 08	00 05 10	CN	9468	E	8	10	9	104	19	99	3813	TR	Train with containers
	820	17 27 20	00 07 28			E	2	9	6	16	2	2	308		Empty move
	821	17 46 31	00 02 20			W	7	8	7	20	5	3	318	T	Freight Train
	822	18 25 14	00 00 00				0	0	0	0	0	0	0	R	Empty move
	823	18 58 01	00 01 05	CN	259	WR	1	13	9	88	22	24	1293	T	Freight Train
	824	19 43 47	00 06 08	CN	259	WR	1	12	8	96	24	24	1404	T	Freight Train
	825	19 52 52	00 00 00				0	0	0	0	0	0	0	R	Empty move
2003-03-18	826	05 42 19	00 13 31	CN	259	W	2	12	10	244	24	172	5171	T	Train with containers
	827	06 20 59	00 01 03	CN	7249	E	9	10	9	8	2	2	112	T	Locomotive only
	828	14 42 41	00 07 37	CN	5545	W	7	13	11	224	23	170	4827	T	Train with containers
	829	15 17 48	00 01 47	CN	2427	E	9	11	10	12	2	2	144		Locomotive only
	830	00 17 48	00 01 47				0	0	0	0	0	0	0	R	Empty move
	831	16 30 17	00 01 32				0	0	0	0	0	0	0	R	Empty move
	832	16 58 19	00 06 31	CN	259	WR	0	10	7	80	20	20	1168	T	Freight Train
	833	18 07 28	00 06 07	CN	259	WR	2	10	6	88	22	24	1293	T	Freight Train
	834	18 33 38	00 01 52				0	0	0	0	0	0	0	R	Empty move
2003-03-19	835	06 43 54	00 06 07			E	5	6	6	16	4	2	230	T	Freight Train
	836	06 43 54	00 00 00				0	0	0	0	0	0	0	R	Double move problem : 835
	837	07 18 45	00 16 23			WR	6	8	7	16	4	4	238	T	Freight Train
	838	08 14 09	00 01 33				0	0	0	0	0	0	0	R	Simulation
	839	08 14 09	00 01 33				0	0	0	0	0	0	0	R	Simulation
	840	09 28 30	00 01 33				0	0	0	0	0	0	0	R	Empty move
	841	13 12 23	00 05 51	CN	5744	W	9	13	10	186	16	122	3993	T	Train with containers
	842	15 55 59	00 18 36	CN	5744	E	0	10	7	434	44	42	9821	T	Train with containers
	843	16 21 45	00 01 03			W	9	9	9	4	1	0	56	T	Locomotive only
	844	18 38 20	00 01 36				0	0	0	0	0	0	0	R	Empty move
	845	18 54 33	00 10 41	CN	259	WR	0	6	3	12	3	3	171	T	Freight Train
	846	19 06 18	00 06 19	CN	259	WR	3	10	8	92	23	23	1349	T	Freight Train
	847	21 27 02	00 06 31	CN	259	WR	1	11	7	88	22	22	1290	T	Freight Train
	848	21 36 31	00 01 35				0	0	0	0	0	0	0	R	Empty move
2003-03-20	849	02 56 02	00 01 05	CN	259	W	10	12	11	8	2	2	112	T	Locomotive only
	850	04 16 25	00 04 54	CN	7249	E	5	11	9	156	16	16	2999	T	Train with containers
	851	16 04 25	00 10 20	CN	7232	W	1	12	9	292	24	202	5975	T	Train with containers
	852	16 47 47	00 01 37				0	0	0	0	0	0	0	R	Empty move
	853	16 54 25	00 01 11	CN	4720	E	8	9	8	8	2	2	115		Locomotive only
	854	17 16 13	00 04 01	CN	259	WR	1	14	9	65	17	17	948	TR	Freight Train
	855	18 45 02	00 10 08	CN	259	WR	1	12	6	88	22	23	1296	T	Freight Train
	856	18 55 21	00 02 50	CN	259	WR	4	9	7	20	5	4	295	T	Freight Train
2003-03-21	857	04 28 01	00 01 05	CN	259	W	11	12	11	8	2	2	112	T	Locomotive only
	858	05 10 03	00 27 15	CN	7249	E	2	10	8	144	17	49	3130	T	Train with containers
	859	06 44 55	00 01 27			E	6	9	8	20	5	4	289	T	Locomotive only
	860	07 55 41	00 01 37			W	7	10	9	28	7	6	443	T	Freight Train
	861	12 55 46	00 07 33	CN	7019	W	6	13	10	224	24	174	4902	T	Train with containers
	862	13 23 33	00 01 01			E	8	8	8	2	1	0	26	T	Locomotive only
	863	15 47 50	00 14 40	CN	7232	E	2	7	6	228	22	159	4896	T	Train with containers
	864	20 13 22	00 00 00				0	0	0	0	0	0	0	R	Empty move
	865	20 18 32	00 11 45	CN	259	WR	1	8	5	64	16	21	938	T	Freight Train
	866	21 48 34	00 09 24	CN	259	WR	1	8	6	56	14	17	817	TR	Freight Train
	867	22 04 47	00 01 35				0	0	0	0	0	0	0	R	Empty move
2003-03-22	868	23 14 48	00 04 43	CN	7235	W	7	12	9	140	16	87	3616	T	Train with containers

Table 29 (continued) – Move information (acceptance tests)

DTI

Date	Move	Move Time	Move Duration	Lead	Engine	Dir.	Speed			Axle	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2003-03-23	869	00 21 04	00 35 10	CN	7232	E	1	9	6	276	25	66	5834	T	Train with containers
2003-03-23	870	12 12 00	00 09 56	CN	259	WR	2	9	5	52	13	16	751	T	Freight Train
2003-03-23	871	12 34 20	00 07 34	CN	259	WR	0	10	7	68	17	16	1014	TR	Freight Train
2003-03-23	872	12 50 46	00 03 21	CN	259	WR	2	13	9	52	13	14	761	T	Freight Train
2003-03-24	873	16 27 58	00 08 27	CN	5545	W	6	13	10	280	28	202	6287	T	Train with containers
2003-03-24	874	17 38 35	00 14 16	CSXT	8831	E	2	12	8	402	35	283	8512	T	Train with containers
2003-03-24	875	18 21 39	00 01 11				0	0	0	0	0	0	0	R	Empty move
2003-03-24	876	18 35 13	00 03 45	CN	259	WR	3	10	6	48	12	12	699	T	Freight Train
2003-03-24	877	19 47 01	00 10 45	CN	259	WR	1	9	5	48	12	10	702	T	Freight Train
2003-03-24	878	20 00 37	00 01 12				0	0	0	0	0	0	0	R	Empty move
2003-03-25	879	04 06 54	00 01 14	CN	259	W	6	9	6	8	2	2	112	T	Locomotive only
2003-03-25	880	04 47 25	00 04 56	CN	7249	E	5	6	6	120	14	56	3212	T	Train with containers
2003-03-25	881	07 55 27	00 01 37			E	5	7	6	20	5	3	255	T	Freight Train
2003-03-25	882	10 22 39	00 01 37			W	7	10	8	24	6	4	374	T	Freight Train
2003-03-25	883	11 26 20	00 01 14			E	5	5	5	2	1	0	26	T	Locomotive only
2003-03-25	884	15 51 31	00 05 51	CN	7200	W	9	15	11	224	25	132	4492	T	Train with containers
2003-03-25	885	16 51 06	00 04 55	CN	7248	E	7	11	9	168	15	100	3271	T	Train with containers
2003-03-25	886	19 04 54	00 03 07	CN	259	WR	1	12	7	24	6	6	345	T	Freight Train
2003-03-25	887	19 25 54	00 12 00	CN	259	WR	1	13	8	100	25	28	1460	T	Freight Train
2003-03-25	888	23 07 09	00 32 27	CN	259	WR	1	9	6	120	30	34	1769	TR	Freight Train
2003-03-26	889	15 57 31	00 17 29	CN	2437	W	1	10	7	368	37	251	7786	T	Train with containers
2003-03-26	890	18 03 29	00 12 01	CN	2668	E	4	10	6	332	32	242	7153	T	Train with containers
2003-03-26	891	18 35 54	00 02 40	CN	259	WR	6	11	7	12	3	3	177	T	Freight Train
2003-03-26	892	18 52 06	00 04 23	CN	259	WR	3	13	9	80	20	24	1165	T	Freight Train
2003-03-26	893	19 37 37	00 06 30	CN	259	WR	1	10	6	80	20	25	1165	T	Freight Train
2003-03-26	894	19 44 26	00 01 43	CN	259	WR	4	7	6	4	1	1	56	R	Locomotive only
2003-03-26	895	19 52 28	00 01 27				0	0	0	0	0	0	0	R	Empty move
2003-03-27	896	05 31 29	00 01 05	CN	259	W	11	12	11	8	2	2	112	T	Locomotive only
2003-03-27	897	06 03 15	00 02 26	CN	7249	E	9	11	10	64	7	32	1309	T	Train with containers
2003-03-27	899	07 35 31	00 01 35			E	7	9	8	28	7	6	400	T	Freight Train
2003-03-27	899	08 24 11	00 01 35			W	7	9	8	24	6	4	364	T	Freight Train
2003-03-27	900	18 28 45	00 01 42				0	0	0	0	0	0	0	R	Empty move
2003-03-27	901	18 36 46	00 02 41	CN	259	WR	5	11	8	36	9	10	525	T	Freight Train
2003-03-27	902	19 47 19	00 04 44	CN	259	WR	1	9	6	49	13	14	712	T	Freight Train
2003-03-27	903	19 53 37	00 00 54				0	0	0	0	0	0	0	R	Empty move
2003-03-27	904	19 56 41	00 01 11				0	0	0	0	0	0	0	R	Empty move
2003-03-27	905	20 00 25	00 01 39	CN	259	WR	3	7	5	8	2	2	112	T	Locomotive only
2003-03-27	906	20 03 03	00 01 23				0	0	0	0	0	0	0	R	Empty move
2003-03-27	907	20 06 10	00 01 57	CN	259	WR	1	8	6	13	4	3	180	T	Freight Train
2003-03-28	908	06 34 35	00 08 28	CN	7200	W	7	9	7	212	19	150	4850	T	Train with containers
2003-03-28	909	07 23 48	00 01 09	CN	7248	E	9	10	10	12	3	1	158		Locomotive only
2003-03-28	910	09 07 28	00 01 33			W	15	15	15	1	1	0	13	T	Locomotive only
2003-03-28	911	09 07 28	00 00 00				0	0	0	0	0	0	0	R	Empty move
2003-03-28	912	14 36 31	00 01 04				0	0	0	0	0	0	0	R	Empty move
2003-03-28	913	17 04 09	00 01 19			E	6	8	7	8	2	0	105	T	Locomotive only
2003-03-28	914	17 29 39	00 01 26			W	5	5	5	8	2	0	116	T	Locomotive only
2003-03-28	915	18 22 35	00 01 16				0	0	0	0	0	0	0	R	Empty move
2003-03-28	916	18 53 42	00 05 44	CN	2671	W	7	11	8	160	14	101	3281	T	Train with containers
2003-03-28	917	19 01 01	00 01 23				0	0	0	0	0	0	0	R	Empty move
2003-03-28	918	19 02 48	00 04 03	CN	7200	WR	4	12	8	80	20	24	1158	T	Freight Train
2003-03-28	919	20 23 40	00 03 38	CN	2421	E	8	10	9	110	11	59	2057	T	Train with containers
2003-03-28	920	21 54 36	00 04 58	CN	7200	WR	3	9	7	60	15	15	863	T	Freight Train
2003-03-28	921	22 00 29	00 01 42				0	0	0	0	0	0	0	R	Empty move
2003-03-29	922	12 00 35	00 01 45			E	6	7	6	24	6	5	368	T	Freight Train
2003-03-29	923	12 43 32	00 01 46			W	6	8	7	28	7	5	412	T	Freight Train
2003-03-29	924	17 52 18	00 14 58	CN	7019	W	2	10	8	340	32	253	8042	T	Train with containers
2003-03-29	925	18 31 13	00 01 10	CN	4730	E	8	9	9	8	2	2	115		Locomotive only
2003-03-29	926	19 42 32	00 01 07	CN	7019	W	9	10	9	8	2	2	115		Locomotive only
2003-03-29	927	20 19 58	00 03 54	CN	4730	E	7	10	8	104	9	68	2153	T	Train with containers

Table 30 presents the chronology of the events that occurred during the test period and the actions taken regarding these events.

Table 30 – Events during acceptance test period

DATE	EVENTS	ACTIONS TAKEN
March 19th	Double move with same time	Replacement of east wheel sensor F1 and adjustment of F1 and F2.
March 21st	PONU codes were incorrect	INO sent a new version of OCRail software, which DTI installed.
March 25th	OCR program stopped for no reason	INO sent a new version to provide more information in the log file. DTI installed this new version at POM.

6.5 Week 1 of Acceptance Tests – March 16th to 22nd 2003

During the test week from March 16th to 22nd 2003, 56 train moves were observed. Twelve of the 56 trains had containers. All the trains were analysed.

Table 31 provides a classification of these moves for week 1.

Table 31 – Classification of observed moves (week 1 of acceptance tests)

Type of train	# of trains	%
Simulation	0	0.00
Empty move	15	26.79
Locomotive only	10	17.86
Train without containers	0	0.00
Train with containers	12	21.43
Freight train	19	33.93
Total # of trains	56	100.00

Table 32 presents the information for these moves generated by the AEI station during the first week of acceptance tests.

Table 32 – Move information (week 1 of acceptance tests)

Date	Move	Move Time	Move Duration	Lead	Engine	Dir		Speed		Axle	Cars	Tags	Lenght	xTra	Comments
							Min	Max	Average						
2003-03-18	826	05:42:19	00:13:31	CN	259	W	2	12	10	244	24	172	5171	T	Train with containers
	827	06:20:59	00:01:03	CN	7249	E	9	10	9	8	2	2	112	T	Locomotive only
	828	14:42:41	00:07:37	CN	5545	W	7	13	11	224	23	176	4837	T	Train with containers
	829	15:17:48	00:01:47	CN	2427	E	9	11	10	12	2	2	144		Locomotive only
	830	00:17:48	00:01:47				0	0	0	0	0	0	0	R	Empty move
	831	16:30:17	00:01:32				0	0	0	0	0	0	0	R	Empty move
	832	16:58:19	00:06:31	CN	259	WR	0	10	7	80	20	20	1168	T	Freight Train
	833	18:07:28	00:06:07	CN	259	WR	2	10	6	88	22	24	1293	T	Freight Train
	834	18:33:38	00:01:53				0	0	0	0	0	0	0	R	Empty move
2003-03-19	835	06:43:54	00:06:07			E	5	6	6	16	4	2	230	T	Freight Train
	836	06:43:54	00:00:00				0	0	0	0	0	0	0	R	Double move problem - 835
	837	07:18:45	00:16:23			WR	6	8	7	16	4	4	236	T	Freight Train
	838	08:14:09	00:01:33				0	0	0	0	0	0	0	R	Simulation
	839	08:14:09	00:01:33				0	0	0	0	0	0	0	R	Simulation
	840	09:28:30	00:01:33				0	0	0	0	0	0	0	R	Empty move
	841	13:12:23	00:05:51	CN	5744	W	9	13	10	186	16	122	3993	T	Train with containers
	842	15:55:59	00:18:36	CN	5744	E	0	10	7	434	44	42	9821	T	Train with containers
	843	16:21:45	00:01:03			W	9	9	9	4	1	0	56	T	Locomotive only
	844	18:38:20	00:01:36				0	0	0	0	0	0	0	R	Empty move
	845	18:54:33	00:10:41	CN	259	WR	0	6	3	12	3	3	171	T	Freight Train
	846	19:06:18	00:06:19	CN	259	WR	3	10	8	92	23	23	1349	T	Freight Train
	847	21:27:02	00:06:31	CN	259	WR	1	11	7	88	22	22	1296	T	Freight Train
	848	21:36:31	00:01:35				0	0	0	0	0	0	0	R	Empty move
2003-03-20	849	02:56:02	00:01:05	CN	259	W	10	12	11	8	2	2	112	T	Locomotive only
	850	04:16:25	00:04:54	CN	7249	E	5	11	9	156	16	16	2999	T	Train with containers
	851	16:04:25	00:10:20	CN	7232	W	1	12	9	292	24	202	5975	T	Train with containers
	852	16:47:47	00:01:37				0	0	0	0	0	0	0	R	Empty move
	853	16:54:25	00:01:11	CN	4720	E	8	9	8	8	2	2	115		Locomotive only
	854	17:16:13	00:04:01	CN	259	WR	1	14	9	65	17	17	948	TR	Freight Train
	855	18:45:02	00:10:08	CN	259	WR	1	10	6	88	22	23	1296	T	Freight Train
	856	18:55:21	00:02:50	CN	259	WR	4	9	7	20	5	4	295	T	Freight Train
2003-03-21	857	04:28:01	00:01:05	CN	259	W	11	12	11	8	2	2	112	T	Locomotive only
	858	05:10:03	00:27:15	CN	7249	E	2	10	8	144	17	49	3130	T	Train with containers
	859	06:44:55	00:01:27			E	6	9	8	20	5	4	289	T	Locomotive only
	860	07:55:41	00:01:37			W	7	10	9	28	7	6	443	T	Freight Train
	861	12:55:46	00:07:33	CN	7019	W	6	13	10	224	24	174	4902	T	Train with containers
	862	13:23:33	00:01:01			E	8	8	8	2	1	0	26	T	Locomotive only
	863	15:47:50	00:14:40	CN	7232	E	2	7	6	228	22	159	4896	T	Train with containers
	864	20:13:22	00:00:00				0	0	0	0	0	0	0	R	Empty move
	865	20:18:32	00:11:45	CN	259	WR	1	8	5	64	16	21	938	T	Freight Train
	866	21:48:34	00:09:24	CN	259	WP	1	8	6	56	14	17	817	TR	Freight Train
	867	22:04:47	00:01:35				0	0	0	0	0	0	0	R	Empty move
2003-03-22	868	23:14:48	00:04:43	CN	7235	W	7	12	9	140	16	87	3610	T	Train with containers

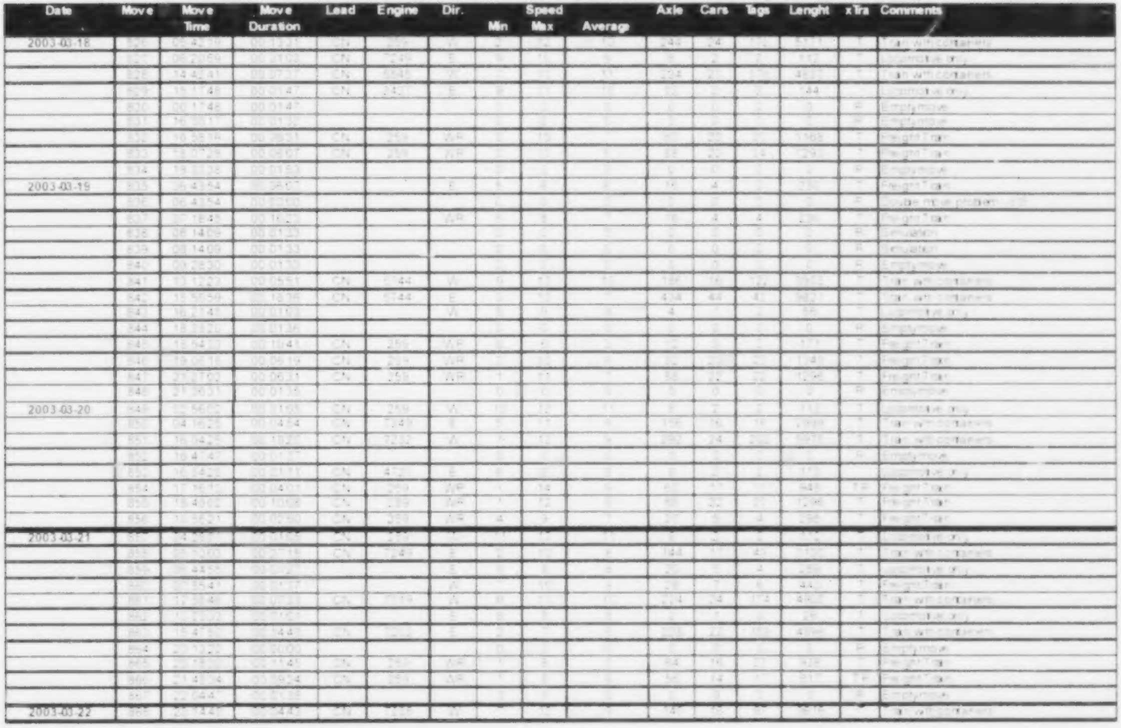
Weather conditions

The weather conditions for this week did not have any effect on the analysis of the images or the external equipment.

Table 33 – Weather conditions (week 1 of acceptance tests)

Day	Date	Time	Celsius	Winds (km/h)	Wind factor	Climate
Sunday	March 16th 2003	07:00:00	-8	7		Sunny with clouds
Sunday	March 16th 2003	16:00:00	6	4		Sunny with clouds
Monday	March 17th 2003	07:00:00	1	9		Sunny with clouds
Monday	March 17th 2003	16:00:00	4	11		Sunny with clouds
Tuesday	March 18th 2003	07:00:00	-3	7		Sunny with clouds
Tuesday	March 18th 2003	16:00:00	4	9		Sunny with clouds
Wednesday	March 19th 2003	07:00:00	-7	28	-15	Sunny
Wednesday	March 19th 2003	16:00:00	0	19	-5	Sunny with clouds
Thursday	March 20th 2003	07:00:00	-7	17	-13	Sunny with clouds
Thursday	March 20th 2003	16:00:00	1	13		Rain
Friday	March 21st 2003	07:00:00	1	7		Cloudy
Friday	March 21st 2003	16:00:00	7	7		Sunny with clouds
Saturday	March 22nd 2003	07:00:00	3	9		Cloudy
Saturday	March 22nd 2003	16:00:00	4	9		Heavy rain

Table 32 – Move information (week 1 of acceptance tests)



Weather conditions

The weather conditions for this week did not have any effect on the analysis of the images or the external equipment.

Table 33 – Weather conditions (week 1 of acceptance tests)

Day	Date	Time	Celsius	Winds (km/h)	Wind factor	Climate
Sunday	March 16th 2003	07:00:00	-8	7		Sunny with clouds
Sunday	March 16th 2003	16:00:00	6	4		Sunny with clouds
Monday	March 17th 2003	07:00:00	1	9		Sunny with clouds
Monday	March 17th 2003	16:00:00	4	11		Sunny with clouds
Tuesday	March 18th 2003	07:00:00	-3	7		Sunny with clouds
Tuesday	March 18th 2003	16:00:00	4	9		Sunny with clouds
Wednesday	March 19th 2003	07:00:00	-7	28	-15	Sunny
Wednesday	March 19th 2003	16:00:00	0	19	-5	Sunny with clouds
Thursday	March 20th 2003	07:00:00	-7	17	-13	Sunny with clouds
Thursday	March 20th 2003	16:00:00	1	13		Rain
Friday	March 21st 2003	07:00:00	1	7		Cloudy
Friday	March 21st 2003	16:00:00	7	7		Sunny with clouds
Saturday	March 22nd 2003	07:00:00	3	9		Cloudy
Saturday	March 22nd 2003	16:00:00	4	9		Heavy rain

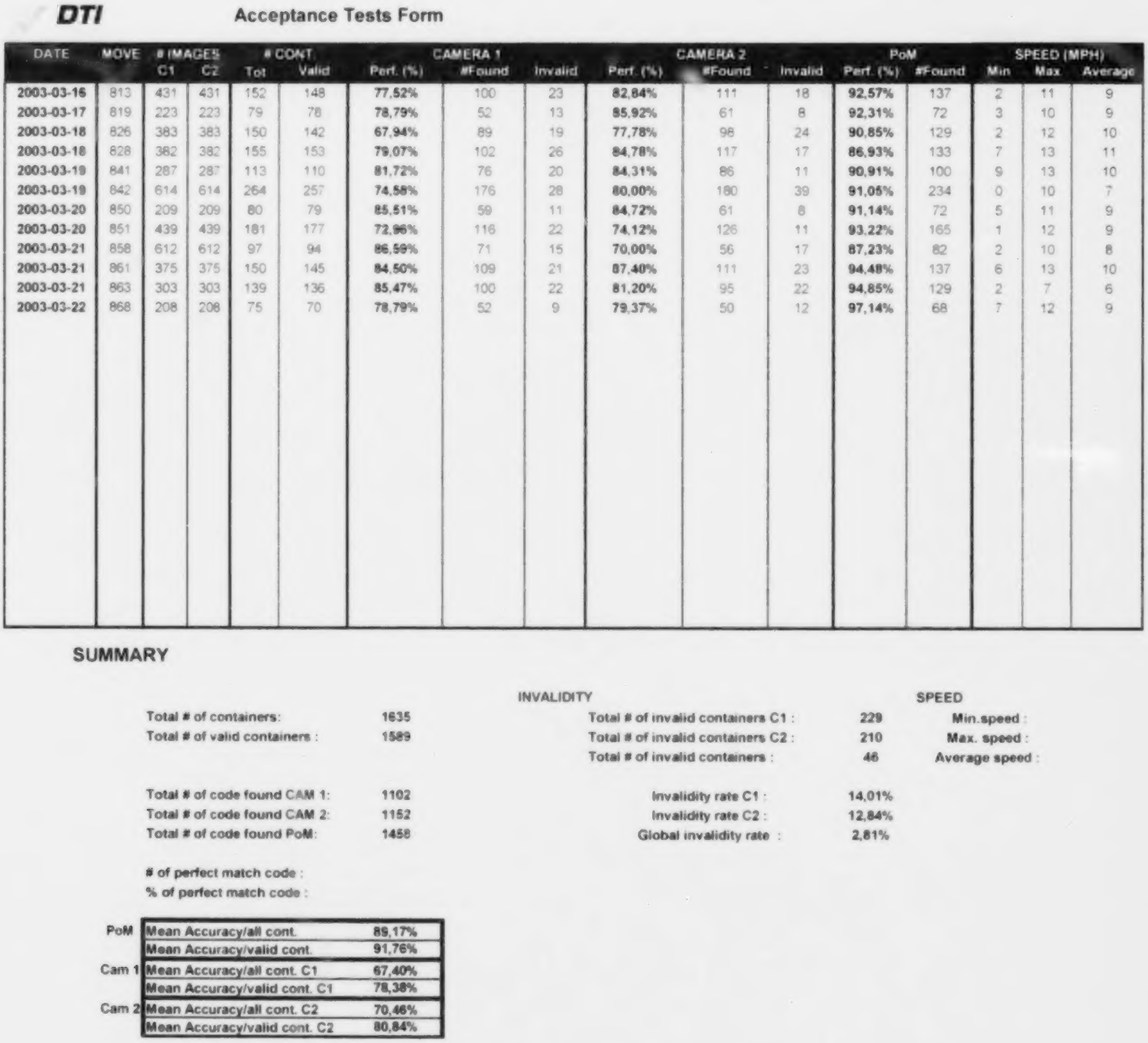
Results

Table 34 presents the OCR accuracy results for the first week of acceptance tests.

The minimum success rate that must be obtained to meet POM requirements is 80%. For the first week of acceptance tests, the success rate for valid containers was 91.76%.

The success rate for all the containers was 89.17%.

Table 34 – Accuracy rate on moves with containers (week 1 of acceptance tests)



DTI Acceptance Tests Form

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2003-03-16	813	431	431	152	148	77,52%	100	23	82,84%	111	18	92,57%	137	2	11	9
2003-03-17	819	223	223	79	78	78,79%	52	13	85,92%	61	8	92,31%	72	3	10	9
2003-03-18	826	383	383	150	142	67,94%	89	19	77,78%	98	24	90,85%	129	2	12	10
2003-03-18	828	382	382	155	153	79,07%	102	26	84,78%	117	17	86,93%	133	7	13	11
2003-03-19	841	287	287	113	110	81,72%	76	20	84,31%	86	11	90,91%	100	9	13	10
2003-03-19	842	614	614	264	257	74,58%	176	28	80,00%	180	39	91,05%	234	0	10	7
2003-03-20	850	209	209	80	79	85,51%	59	11	84,72%	61	8	91,14%	72	5	11	9
2003-03-20	851	439	439	181	177	72,96%	116	22	74,12%	126	11	93,22%	165	1	12	9
2003-03-21	858	612	612	97	94	86,59%	71	15	70,00%	56	17	87,23%	82	2	10	8
2003-03-21	861	375	375	150	145	84,50%	109	21	87,40%	111	23	94,48%	137	6	13	10
2003-03-21	863	303	303	139	136	85,47%	100	22	81,20%	95	22	94,85%	129	2	7	6
2003-03-22	868	208	208	75	70	78,79%	52	9	79,37%	50	12	97,14%	68	7	12	9

SUMMARY

Total # of containers: 1635
Total # of valid containers : 1589

Total # of code found CAM 1: 1102
Total # of code found CAM 2: 1152
Total # of code found PoM: 1458

# of perfect match code :
% of perfect match code :

INVALIDITY

Total # of invalid containers C1 : 229
Total # of invalid containers C2 : 210
Total # of invalid containers : 46

Invalidity rate C1 : 14,01%
Invalidity rate C2 : 12,84%
Global invalidity rate : 2,81%

SPEED

Min.speed :
Max. speed :
Average speed :

PoM	Mean Accuracy/all cont.	89,17%
	Mean Accuracy/valid cont.	91,76%
Cam 1	Mean Accuracy/all cont. C1	67,40%
	Mean Accuracy/valid cont. C1	78,38%
Cam 2	Mean Accuracy/all cont. C2	70,46%
	Mean Accuracy/valid cont. C2	80,84%

Table 35 shows the processing times for the moves that were analysed during the first week of acceptance tests.

Three train moves had processing times exceeding 20 minutes. Moves 842 and 850 had a problem involving the failure of the OCRail program, and move 858 had a duration of 00:27:15.

Table 35 – Processing times (week 1 of acceptance tests)

			Speed			Total of		Move	End process	Process	Performance	
Date	Move no	Min	Max	Average	Length	containers	Move time	duration	time	duration	flag	Comments
2003-03-16	813	2	11	9	5473	152	20 46 19	00 10 37	21 00 04	00 13 45	1	
2003-03-17	819	3	10	9	3813	79	17 22 08	00 05 10	17 28 26	00 06 18	1	
2003-03-18	826	2	12	10	5171	150	05 42 19	00 13 31	05 58 00	00 15 41	1	
2003-03-18	828	7	13	11	4837	155	14 42 41	00 07 37	14 53 46	00 11 05	1	
2003-03-19	841	9	13	10	3993	113	13 12 23	00 05 51	13 19 16	00 06 53	1	
2003-03-19	842	0	10	7	9821	264	15 55 59	00 18 36	17 08 34	01 12 35	0	OCRail program stopped
2003-03-20	850	5	11	9	2999	80	04 16 25	00 04 54	05 07 04	00 50 39	0	OCRail program stopped
2003-03-20	851	1	12	9	5975	181	16 04 25	00 10 20	16 16 58	00 12 33	1	
2003-03-21	858	2	10	8	3130	97	05 10 03	00 27 15	05 37 20	00 27 17	0	Move duration 00 27 15
2003-03-21	861	6	13	10	4902	150	12 55 46	00 07 33	13 05 46	00 10 00	1	
2003-03-21	863	2	7	6	4896	139	15 47 50	00 14 40	16 04 38	00 16 48	1	
2003-03-22	868	7	12	9	3616	75	23 14 48	00 04 43	23 22 16	00 07 28	1	

Number of moves :	12
Respect of criterias :	9
Process time performance :	75,00%

Modifications

Modifications had to be made to solve the following problems:

1) PONU codes were entered incorrectly

The OCRail software did not detect the PONU codes correctly. INO modified the OCRail software on March 20th 2003, so that an error in the PONU code would be corrected automatically.

2) Defective wheel sensor

East wheel sensor F1 was defective and caused double train moves with the same time. Wheel sensor F1 was replaced, and F1 and F2 were adjusted on March 19th 2003 by CCTC.

Table 35 shows the processing times for the moves that were analysed during the first week of acceptance tests.

Three train moves had processing times exceeding 20 minutes. Moves 842 and 850 had a problem involving the failure of the OCRail program, and move 858 had a duration of 00:27:15.

Table 35 – Processing times (week 1 of acceptance tests)

Date	Move no	Speed Min	Speed Max	Speed Average	Length	Total of containers	Move time	Move duration	End process time	Process duration	Performance flag	Comments
2003-03-16	813	2	11	9	5473	152	20 46 19	00 10 37	21 00 04	00 13 45	1	
2003-03-17	819	3	10	9	3813	79	17 22 08	00 05 10	17 28 26	00 06 18	1	
2003-03-18	826	2	12	10	5571	150	05 42 19	00 13 31	05 58 00	00 15 41	1	
2003-03-18	828	7	13	11	4837	155	14 42 41	00 07 37	14 53 46	00 11 05	1	
2003-03-19	841	9	13	10	[illegible]	113	13 12 23	00 05 51	13 19 16	00 06 53	1	
2003-03-19	842	0	[illegible]	7	9821	284	15 55 59	00 18 36	17 08 34	01 12 35	0	OCRail program stopped
2003-03-20	850	8	11	9	2999	80	04 16 25	00 04 54	05 07 04	00 50 39	0	OCRail program stopped
2003-03-20	851	1	12	9	5975	181	16 04 25	00 10 20	16 16 58	00 12 33	1	
2003-03-21	858	2	10	8	3130	91	05 10 03	00 27 15	05 37 20	00 27 17	0	Move duration 00:27:15
2003-03-21	861	6	13	10	4932	150	12 55 46	00 07 33	13 05 46	00 10 00	1	
2003-03-21	863	2	7	6	4896	139	15 47 50	00 14 40	16 04 38	00 16 48	1	
2003-03-22	868	7	12	9	2610	75	23 14 48	00 04 43	23 22 16	00 07 28	1	

Number of moves :	12
Respect of criterias :	9
Process time performance :	75.00%

Modifications

Modifications had to be made to solve the following problems:

1) PONU codes were entered incorrectly

The OCRail software did not detect the PONU codes correctly. INO modified the OCRail software on March 20th 2003, so that an error in the PONU code would be corrected automatically.

2) Defective wheel sensor

East wheel sensor F1 was defective and caused double train moves with the same time. Wheel sensor F1 was replaced, and F1 and F2 were adjusted on March 19th 2003 by CCTC.

6.6 Week 2 of Acceptance Tests – March 23rd to 29th 2003

During the test week from March 23rd to 29th 2003, 59 train moves were observed. Fourteen of the 59 trains had containers. All the trains were analysed.

Table 36 provides a classification of these moves for week 2.

Table 36 – Classification of observed moves (week 2 of acceptance tests)

Type of train	# of trains	%
Simulation	0	0.00
Empty move	12	20.34
Locomotive only	11	18.64
Train without containers	0	0.00
Train with containers	14	23.73
Freight train	22	37.29
Total # of trains	59	100.00

Table 37 presents the information for these moves generated by the AEI station during the second week of acceptance tests.

Table 37 – Move information (week 2 of acceptance tests)

Date	Move	Move Time	Move Duration	Lead	Engine	Dir.	Speed Min	Max	Average	Axle	Cars	Tags	Lenght	xTra	Comments
2003-03-23	869	00:21:04	00:35:10	CN	7232	E	1	9	6	276	25	66	5834	T	Train with containers
2003-03-23	870	12:12:00	00:09:56	CN	259	WR	2	9	5	52	13	16	751	T	Freight Train
2003-03-23	871	12:34:20	00:07:34	CN	259	WR	0	10	7	68	17	16	1014	TR	Freight Train
2003-03-23	872	12:50:46	00:03:21	CN	259	WR	2	13	9	52	13	14	761	T	Freight Train
2003-03-24	873	16:27:58	00:08:27	CN	5545	W	8	13	10	280	26	202	6287	T	Train with containers
2003-03-24	874	17:38:35	00:14:16	CSXT	8831	E	2	12	8	400	35	283	8512	T	Train with containers
2003-03-24	875	18:21:39	00:01:11				0	0	0	0	0	0	0	R	Empty move
2003-03-24	876	18:35:13	00:03:45	CN	259	WR	3	10	8	48	12	12	699	T	Freight Train
2003-03-24	877	19:47:01	00:10:45	CN	259	WR	1	9	5	48	12	13	702	T	Freight Train
2003-03-24	878	20:00:37	00:01:12				0	0	0	0	0	0	0	R	Empty move
2003-03-25	879	04:06:54	00:01:14	CN	259	W	8	9	8	8	2	2	112	T	Locomotive only
2003-03-25	880	04:47:25	00:04:56	CN	7249	E	5	8	6	120	14	86	3212	T	Train with containers
2003-03-25	881	07:55:27	00:01:37			E	5	7	6	20	5	3	285	T	Freight Train
2003-03-25	882	10:23:39	00:01:37			W	7	10	8	24	6	4	374	T	Freight Train
2003-03-25	883	11:26:20	00:01:14			E	5	5	5	2	1	0	26	T	Locomotive only
2003-03-25	884	15:51:31	00:05:51	CN	7200	W	9	15	11	224	25	132	4492	T	Train with containers
2003-03-25	885	16:51:06	00:04:55	CN	7248	E	7	11	9	168	15	100	3271	T	Train with containers
2003-03-25	886	19:04:54	00:03:07	CN	259	WR	1	12	7	24	6	6	345	T	Freight Train
2003-03-25	887	19:25:54	00:12:00	CN	259	WR	1	13	8	100	25	25	1460	T	Freight Train
2003-03-25	888	23:07:09	00:32:27	CN	259	WR	1	9	6	120	30	34	1769	TR	Freight Train
2003-03-26	889	15:57:31	00:17:29	CN	2437	W	1	10	7	368	37	251	7786	T	Train with containers
2003-03-26	890	18:03:29	00:12:01	CN	2668	E	4	10	8	332	32	242	7153	T	Train with containers
2003-03-26	891	18:35:54	00:02:40	CN	259	WR	5	11	7	12	3	3	177	T	Freight Train
2003-03-26	892	18:52:09	00:04:23	CN	259	WR	3	13	9	80	20	24	1185	T	Freight Train
2003-03-26	893	19:37:37	00:06:30	CN	259	WR	1	10	6	80	20	25	1165	T	Freight Train
2003-03-26	894	19:44:26	00:01:43	CN	259	WR	4	7	6	4	1	1	56	R	Locomotive only
2003-03-26	895	19:52:28	00:01:27				0	0	0	0	0	0	0	R	Empty move
2003-03-27	896	05:31:29	00:01:05	CN	259	W	11	12	11	8	2	2	112	T	Locomotive only
2003-03-27	897	06:03:15	00:02:26	CN	7249	E	9	11	10	64	7	32	1309	T	Train with containers
2003-03-27	898	07:35:31	00:01:35			E	7	9	8	28	7	6	400	T	Freight Train
2003-03-27	899	08:24:11	00:01:35			W	7	9	8	24	6	4	364	T	Freight Train
2003-03-27	900	18:28:45	00:01:42				0	0	0	0	0	0	0	R	Empty move
2003-03-27	901	18:36:46	00:02:41	CN	259	WR	5	11	8	36	9	10	525	T	Freight Train
2003-03-27	902	19:47:19	00:04:44	CN	259	WR	1	9	6	49	13	14	712	T	Freight Train
2003-03-27	903	19:53:37	00:00:54				0	0	0	0	0	0	0	R	Empty move
2003-03-27	904	19:56:41	00:01:11				0	0	0	0	0	0	0	R	Empty move
2003-03-27	905	20:00:25	00:01:39	CN	259	WR	3	7	5	8	2	2	112	T	Locomotive only
2003-03-27	906	20:03:03	00:01:23				0	0	0	0	0	0	0	R	Empty move
2003-03-27	907	20:06:10	00:01:57	CN	259	WR	1	8	6	13	4	3	180	T	Freight Train
2003-03-28	908	06:34:35	00:08:28	CN	7200	W	7	9	7	212	19	150	4850	T	Train with containers
2003-03-28	909	07:23:48	00:01:09	CN	7248	E	9	10	10	12	3	3	158		Locomotive only
2003-03-28	910	09:07:28	00:01:33			W	15	15	15	1	1	0	13	T	Locomotive only
2003-03-28	911	09:07:28	00:00:00				0	0	0	0	0	0	0	R	Empty move
2003-03-28	912	14:36:31	00:01:04				0	0	0	0	0	0	0	R	Empty move
2003-03-28	913	17:04:09	00:01:19			E	6	8	7	8	2	0	105	T	Locomotive only
2003-03-28	914	17:29:39	00:01:26			W	5	5	5	8	2	0	115	T	Locomotive only
2003-03-28	915	18:22:35	00:01:16				0	0	0	0	0	0	0	R	Empty move
2003-03-28	916	18:53:42	00:05:44	CN	2671	W	7	11	8	160	14	101	3281	T	Train with containers
2003-03-28	917	19:01:01	00:01:23				0	0	0	0	0	0	0	R	Empty move
2003-03-28	918	19:02:48	00:04:03	CN	7200	WR	4	12	9	80	20	24	1158	T	Freight Train
2003-03-28	919	20:23:40	00:03:38	CN	2421	E	8	10	9	116	11	59	2057	T	Train with containers
2003-03-28	920	21:54:36	00:04:58	CN	7200	WR	3	9	7	60	15	15	863	T	Freight Train
2003-03-28	921	22:00:29	00:01:42				0	0	0	0	0	0	0	R	Empty move
2003-03-29	922	12:00:35	00:01:49			E	5	7	6	24	6	5	368	T	Freight Train
2003-03-29	923	12:43:32	00:01:46			W	6	8	7	28	7	5	413	T	Freight Train
2003-03-29	924	17:52:18	00:14:58	CN	7019	W	2	10	8	340	33	253	8042	T	Train with containers
2003-03-29	925	18:35:13	00:01:10	CN	4730	E	8	9	9	8	2	2	115		Locomotive only
2003-03-29	926	19:42:32	00:01:07	CN	7019	W	9	10	9	8	2	2	115		Locomotive only
2003-03-29	927	20:19:58	00:03:54	CN	4730	E	7	10	8	104	9	68	2153	T	Train with containers

Table 37 presents the information for these moves generated by the AEI station during the second week of acceptance tests.

Table 37 – Move information (week 2 of acceptance tests)

Date	Move	Move Time	Move Duration	Lead	Engine	Dir.	Speed Min	Speed Max	Speed Average	Axle	Cars	Tags	Lenght	xTra	Comments
2003-03-23	[illegible]	[illegible]	[illegible]	CN	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Train with containers
2003-03-23	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-23	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TP	Freight Train
2003-03-23	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14	[illegible]	T	Freight Train
2003-03-24	[illegible]	[illegible]	[illegible]	CN	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Train with containers
2003-03-24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Train with containers
2003-03-24	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-24	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-24	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-24	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-25	[illegible]	[illegible]	[illegible]	CN	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Locomotive only
2003-03-25	[illegible]	[illegible]	[illegible]	CN	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	14	[illegible]	[illegible]	T	Train with containers
2003-03-25	[illegible]	[illegible]	[illegible]			E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-25	[illegible]	[illegible]	[illegible]			W	[illegible]	[illegible]	[illegible]	24	[illegible]	4	[illegible]	T	Freight Train
2003-03-25	[illegible]	[illegible]	[illegible]			E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Locomotive only
2003-03-25	[illegible]	[illegible]	[illegible]	CN	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Train with containers
2003-03-25	[illegible]	[illegible]	[illegible]	CN	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Train with containers
2003-03-25	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	1	[illegible]	[illegible]	24	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-25	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-25	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	TP	Freight Train
2003-03-26	[illegible]	[illegible]	[illegible]	CN	[illegible]	W	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Train with containers
2003-03-26	[illegible]	[illegible]	[illegible]	CN	[illegible]	E	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Train with containers
2003-03-26	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-26	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-26	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-26	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	4	[illegible]	[illegible]	4	[illegible]	[illegible]	[illegible]	R	Locomotive only
2003-03-26	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-27	[illegible]	[illegible]	[illegible]	CN	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Locomotive only
2003-03-27	[illegible]	[illegible]	[illegible]	CN	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Train with containers
2003-03-27	[illegible]	[illegible]	[illegible]			E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-27	[illegible]	[illegible]	[illegible]			W	[illegible]	[illegible]	[illegible]	24	[illegible]	4	[illegible]	T	Freight Train
2003-03-27	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-27	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-27	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14	[illegible]	T	Freight Train
2003-03-27	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-27	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-27	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Locomotive only
2003-03-27	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-27	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	4	[illegible]	[illegible]	T	Freight Train
2003-03-28	[illegible]	[illegible]	[illegible]	CN	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Train with containers
2003-03-28	[illegible]	[illegible]	[illegible]	CN	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Locomotive only
2003-03-28	[illegible]	[illegible]	[illegible]			W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Locomotive only
2003-03-28	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-28	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-28	[illegible]	[illegible]	[illegible]			E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Locomotive only
2003-03-28	[illegible]	[illegible]	[illegible]			W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Locomotive only
2003-03-28	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-28	[illegible]	[illegible]	[illegible]	CN	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	14	[illegible]	[illegible]	T	Train with containers
2003-03-28	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-28	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	4	[illegible]	[illegible]	[illegible]	[illegible]	24	[illegible]	T	Freight Train
2003-03-28	[illegible]	[illegible]	[illegible]	CN	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Train with containers
2003-03-28	[illegible]	[illegible]	[illegible]	CN	[illegible]	WB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-28	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	R	Empty move
2003-03-29	[illegible]	[illegible]	[illegible]			E	[illegible]	[illegible]	[illegible]	24	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-29	[illegible]	[illegible]	[illegible]			W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Freight Train
2003-03-29	[illegible]	[illegible]	[illegible]	CN	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	T	Train with containers
2003-03-29	[illegible]	[illegible]	[illegible]	CN	[illegible]	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Locomotive only
2003-03-29	[illegible]	[illegible]	[illegible]	CN	[illegible]	W	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Locomotive only
2003-03-29	[illegible]	[illegible]	[illegible]	CN	[illegible]	E	[illegible]	[illegible]	[illegible]	104	[illegible]	[illegible]	[illegible]	T	Train with containers

Weather conditions

The weather conditions for this week did not have any effect on the analysis of the images or the external equipment.

Table 38 – Weather conditions (week 2 of acceptance tests)

Day	Date	Time	Celsius	Winds (km/h)	Wind factor	Climate
Sunday	March 23rd 2003	07:00:00	1	9		Rain
Sunday	March 23rd 2003	16:00:00	4	7		Cloudy
Monday	March 24th 2003	07:00:00	1	7		Sunny with clouds
Monday	March 24th 2003	16:00:00	8	9		Sunny with clouds
Tuesday	March 25th 2003	07:00:00	4	17		Cloudy
Tuesday	March 25th 2003	16:00:00	7	13		Rain
Wednesday	March 26th 2003	07:00:00	3	11		Rain
Wednesday	March 26th 2003	16:00:00	8	15		Sunny with clouds
Thursday	March 27th 2003	07:00:00	1	17	-4	Sunny with clouds
Thursday	March 27th 2003	16:00:00	7	22		Sunny with clouds
Friday	March 28th 2003	07:00:00	1	19	-4	Cloudy
Friday	March 28th 2003	16:00:00	10	15		Sunny with clouds
Saturday	March 29th 2003	07:00:00	11	24		Cloudy
Saturday	March 29th 2003	16:00:00	9	34		Rain

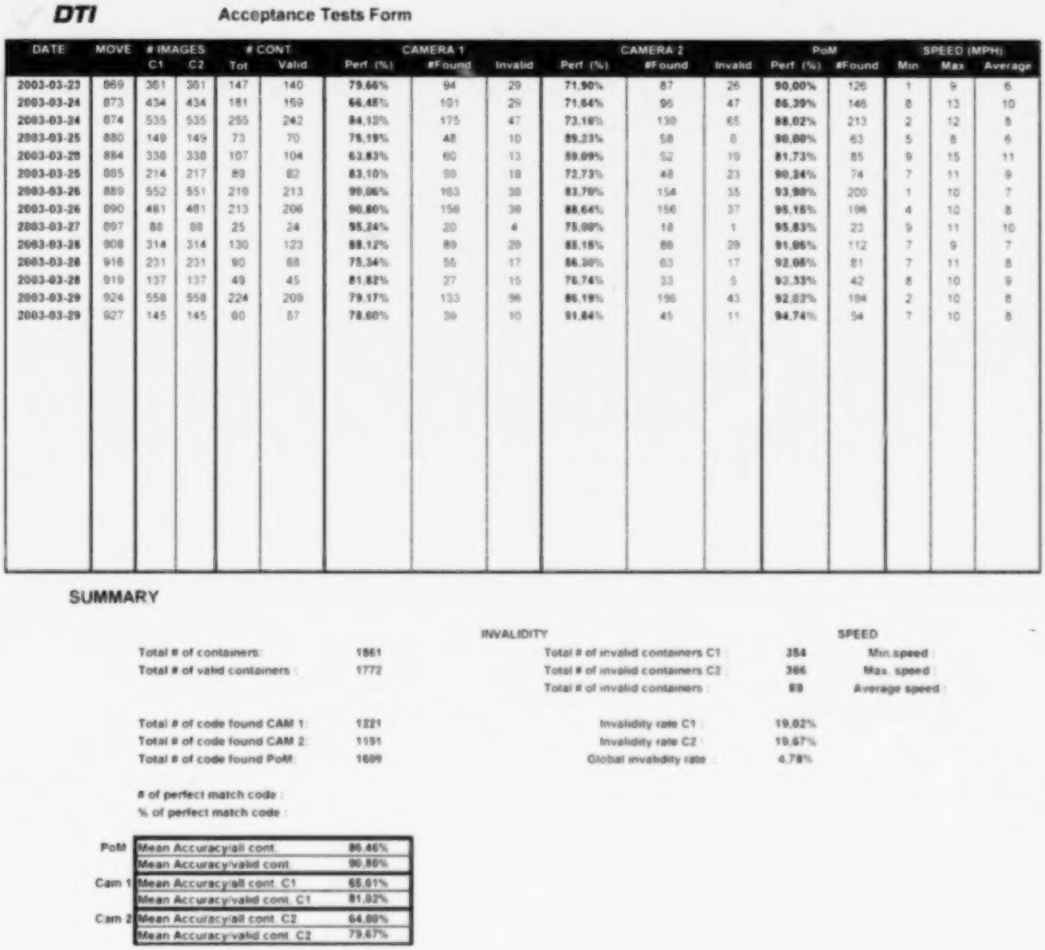
Results

Table 39 presents the OCR accuracy results for the second week of acceptance tests.

The minimum success rate that must be obtained to meet POM requirements is 80%. For the second week of acceptance tests, the success rate for valid containers was 90.80%.

The success rate for all the containers was 86.46%.

Table 39 – Accuracy rate on moves with containers (week 2 of acceptance tests)



DTI Acceptance Tests Form

DATE	MOVE	# IMAGES		# CONT		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf (%)	#Found	Invalid	Perf (%)	#Found	Invalid	Perf (%)	#Found	Min	Max	Average
2003-03-23	869	361	361	147	140	79.66%	94	29	71.90%	87	26	90,00%	126	1	9	6
2003-03-24	873	434	434	181	169	66.45%	101	29	71,64%	96	47	86,39%	146	8	13	10
2003-03-24	874	535	535	255	242	84.13%	175	47	73.16%	130	65	88,02%	213	2	12	8
2003-03-25	880	149	149	73	70	76.19%	48	10	89.23%	58	8	90,00%	63	5	8	6
2003-03-25	884	338	338	107	104	63.83%	60	13	59.09%	52	10	81,73%	85	9	15	11
2003-03-25	885	214	217	89	82	83.10%	59	18	72.73%	48	23	90,24%	74	7	11	9
2003-03-26	889	552	551	219	213	90.06%	163	38	83.70%	154	35	93,90%	200	1	10	7
2003-03-26	890	481	481	213	206	90.80%	158	39	88.64%	156	37	95,15%	196	4	10	8
2003-03-27	897	88	88	25	24	95.24%	20	4	75.00%	18	1	95,83%	23	9	11	10
2003-03-28	908	314	314	130	123	88.12%	89	29	88.18%	86	29	91,06%	112	7	9	7
2003-03-28	916	231	231	90	88	75.34%	55	17	86.30%	63	17	92,05%	81	7	11	8
2003-03-28	919	137	137	48	45	81.82%	27	15	76.74%	33	5	93,33%	42	8	10	9
2003-03-29	924	558	558	224	209	79.17%	133	56	86.19%	156	43	92,82%	194	2	10	8
2003-03-29	927	145	145	60	57	78.00%	39	10	91,84%	45	11	94,74%	54	7	10	8

SUMMARY

		INVALIDITY		SPEED	
Total # of containers:	1861	Total # of invalid containers C1 :	354	Min.speed :	
Total # of valid containers :	1772	Total # of invalid containers C2 :	366	Max. speed :	
		Total # of invalid containers :	89	Average speed :	
Total # of code found CAM 1:	1221	Invalidity rate C1 :	19,02%		
Total # of code found CAM 2:	1151	Invalidity rate C2 :	19,67%		
Total # of code found PoM:	1609	Global invalidity rate :	4,78%		
# of perfect match code :					
% of perfect match code :					

PoM	Mean Accuracy/all cont.	86,46%
	Mean Accuracy/valid cont.	90,80%
Cam 1	Mean Accuracy/all cont. C1	65,61%
	Mean Accuracy/valid cont. C1	81,02%
Cam 2	Mean Accuracy/all cont. C2	64,00%
	Mean Accuracy/valid cont. C2	79,67%

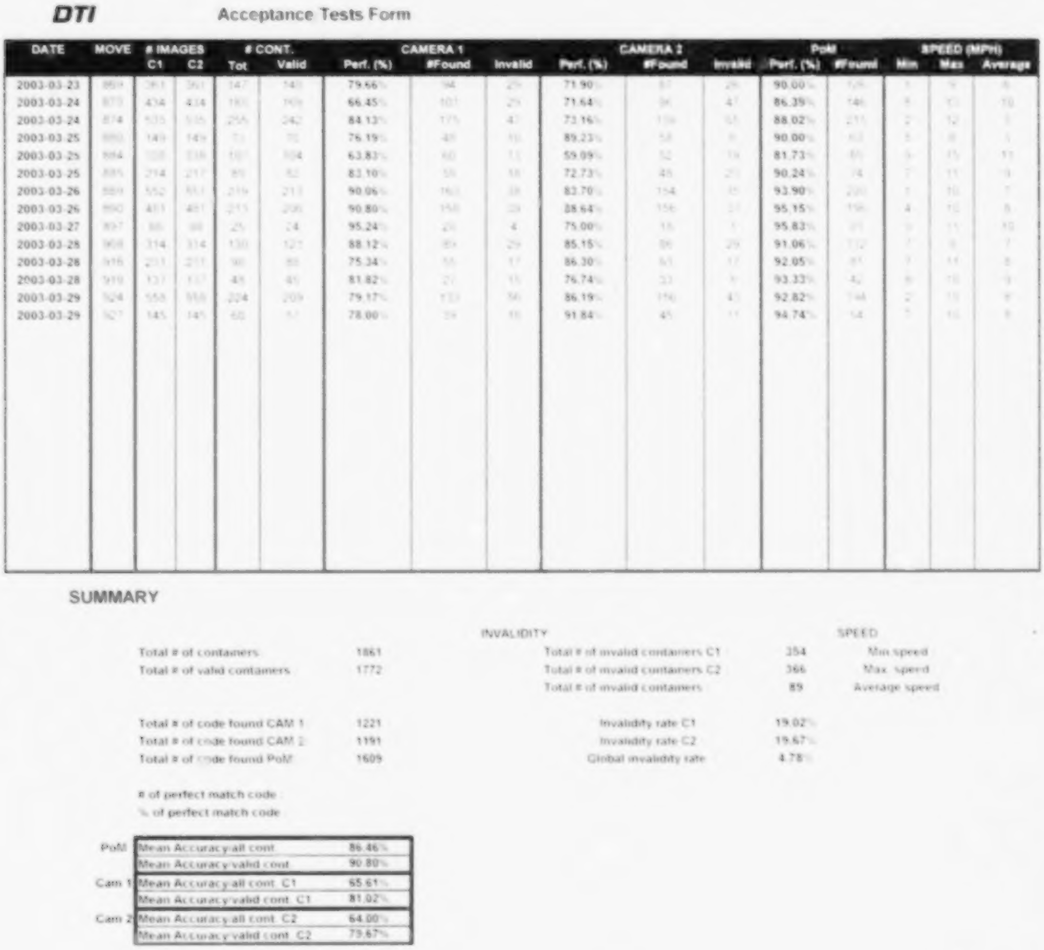
Results

Table 39 presents the OCR accuracy results for the second week of acceptance tests.

The minimum success rate that must be obtained to meet POM requirements is 80%. For the second week of acceptance tests, the success rate for valid containers was 90.80%.

The success rate for all the containers was 86.46%.

Table 39 – Accuracy rate on moves with containers (week 2 of acceptance tests)



DTI Acceptance Tests Form

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2003-03-23	869	361	361	147	140	79.66%	94	29	71.90%	87	26	90.00%	126	1	9	6
2003-03-24	873	434	434	181	169	66.45%	101	29	71.64%	96	47	86.39%	146	5	13	10
2003-03-24	874	535	535	255	242	84.13%	175	47	73.16%	139	65	88.02%	213	2	12	8
2003-03-25	880	149	149	73	70	76.19%	48	10	89.23%	58	8	90.00%	63	5	8	6
2003-03-25	884	338	338	107	104	63.83%	60	13	59.09%	52	19	81.73%	85	6	15	11
2003-03-25	885	214	217	89	82	83.10%	59	18	72.73%	48	23	90.24%	74	7	11	9
2003-03-26	889	552	551	219	213	90.06%	163	38	83.70%	154	35	93.90%	200	1	10	7
2003-03-26	890	481	481	215	206	90.80%	158	39	88.64%	156	27	95.15%	196	4	10	8
2003-03-27	897	88	88	25	24	95.24%	20	4	75.00%	18	1	95.83%	23	9	11	10
2003-03-28	908	314	314	130	123	88.12%	89	29	85.15%	86	29	91.06%	112	7	8	7
2003-03-28	916	231	231	90	88	75.34%	55	17	86.30%	63	17	92.05%	81	7	11	8
2003-03-28	919	137	137	48	45	81.82%	27	15	76.74%	33	5	93.33%	42	8	10	9
2003-03-29	924	558	558	224	209	79.17%	133	56	86.19%	156	43	92.82%	194	2	13	9
2003-03-29	927	145	145	60	57	78.00%	39	10	91.84%	45	11	94.74%	54	7	10	9

SUMMARY

		INVALIDITY		SPEED
Total # of containers :	1861	Total # of invalid containers C1 :	354	Min speed :
Total # of valid containers :	1772	Total # of invalid containers C2 :	366	Max. speed :
		Total # of invalid containers :	89	Average speed :
Total # of code found CAM 1 :	1221	Invalidity rate C1 :	19.02%	
Total # of code found CAM 2 :	1191	Invalidity rate C2 :	19.67%	
Total # of code found PoM :	1609	Global invalidity rate :	4.78%	

# of perfect match code :
% of perfect match code :

PoM	Mean Accuracy/all cont.	86.46%
	Mean Accuracy/valid cont.	90.80%
Cam 1	Mean Accuracy/all cont. C1	65.61%
	Mean Accuracy/valid cont. C1	81.02%
Cam 2	Mean Accuracy/all cont. C2	64.00%
	Mean Accuracy/valid cont. C2	79.67%

Table 40 shows the processing times for the moves that were analysed during the second week of acceptance tests.

Four train moves had processing times exceeding 20 minutes. Moves 869 and 888 had move duration of 00:35:10 and 00:32:37. The false detection for moves 903 and 911 had no EoT and no images.

Table 40 – Processing times (week 2 of acceptance tests)

Date	Move no.	Speed Min	Speed Max	Speed Average	Length	Total of containers	Move time	Move duration	End process time	Process duration	Performance flag	Comments
2003-03-23	869	1	9	6	5834	147	00 21 04	00 35 10	00 56 28	00 35 24	0	Move duration 35 10
2003-03-23	870	2	9	5	751		12 12 00	00 09 56	12 23 04	00 11 04	1	
2003-03-23	871	0	10	7	1014		12 34 20	00 07 34	12 45 34	00 11 14	1	
2003-03-23	872	2	13	9	761		12 50 46	00 03 21	12 54 18	00 03 32	1	
2003-03-24	873	8	13	10	6287	181	16 27 58	00 08 27	16 39 04	00 11 06	1	
2003-03-24	874	2	12	8	8512	255	17 38 35	00 14 16	17 57 06	00 18 31	1	
2003-03-24	875	0	0	0	0		18 21 39	00 01 11	18 24 54	00 03 15	1	
2003-03-24	876	3	10	8	699		18 35 13	00 03 45	18 39 08	00 03 55	1	
2003-03-24	877	1	9	5	702		19 47 01	00 10 45	19 57 56	00 10 55	1	
2003-03-24	878	0	0	0	0		20 00 37	00 01 12	20 04 00	00 03 23	1	
2003-03-25	879	8	9	8	112		04 06 54	00 01 14	04 08 50	00 01 56	1	
2003-03-25	880	5	6	6	3212	73	04 47 25	00 04 56	04 54 06	00 06 41	1	
2003-03-25	881	5	7	6	285		07 55 27	00 01 37	07 57 16	00 01 49	1	
2003-03-25	882	7	10	8	374		10 23 39	00 01 37	10 25 22	00 01 43	1	
2003-03-25	883	5	5	5	26		11 26 20	00 01 14	11 27 46	00 01 26	1	
2003-03-25	884	9	15	11	4492	107	15 51 31	00 05 51	15 59 42	00 08 11	1	
2003-03-25	885	7	11	9	3271	89	16 51 06	00 04 55	16 57 00	00 05 54	1	
2003-03-25	886	1	12	7	345		19 04 54	00 03 07	19 08 12	00 03 18	1	
2003-03-25	887	1	13	8	1460		19 25 54	00 12 00	19 38 04	00 12 10	1	
2003-03-25	888	1	9	6	1769		23 07 09	00 32 27	23 39 52	00 32 43	0	Move duration 32 37
2003-03-26	889	1	10	7	7786	219	15 57 31	00 17 29	16 18 18	00 20 47	0	
2003-03-26	890	4	10	8	7153	213	18 03 29	00 12 01	18 20 04	00 16 35	1	
2003-03-26	891	5	11	7	177		18 35 54	00 02 40	18 38 44	00 02 50	1	
2003-03-26	892	3	13	9	1185		18 52 09	00 04 23	18 56 40	00 04 31	1	
2003-03-26	893	1	10	6	1165		19 37 37	00 06 30	19 44 10	00 06 33	1	
2003-03-26	894	4	7	6	56		19 44 26	00 01 43	19 46 50	00 02 24	1	
2003-03-26	895	0	0	0	0		19 52 28	00 01 27	19 55 34	00 03 06	1	
2003-03-27	896	11	12	11	112		05 31 29	00 01 05	05 32 42	00 01 13	1	
2003-03-27	897	9	11	10	1309	25	06 03 15	00 02 26	06 06 14	00 02 59	1	
2003-03-27	898	7	9	8	400		07 35 31	00 01 35	07 37 16	00 01 45	1	
2003-03-27	899	7	9	8	364		08 24 11	00 01 35	08 25 46	00 01 35	1	
2003-03-27	900	0	0	0	0		18 28 45	00 01 42	18 32 38	00 03 53	1	
2003-03-27	901	5	11	8	525		18 36 46	00 02 41	18 39 58	00 03 12	1	
2003-03-27	902	1	9	6	712		19 47 19	00 04 44	19 52 14	00 04 55	1	
2003-03-27	903	0	0	0	0		19 53 37	00 00 54	20 53 22	00 59 45	0	No end of train, no images
2003-03-27	904	0	0	0	0		19 56 41	00 01 11	19 59 32	00 02 51	1	
2003-03-27	905	3	7	5	112		20 00 25	00 01 39	20 02 16	00 01 51	1	
2003-03-27	906	0	0	0	0		20 03 03	00 01 23	20 06 08	00 03 05	1	
2003-03-27	907	1	8	6	180		20 06 10	00 01 57	20 08 50	00 02 40	1	
2003-03-28	908	7	9	7	4850	130	06 34 35	00 08 28	06 44 42	00 10 07	1	
2003-03-28	909	9	10	10	158		07 23 48	00 01 09	07 25 29	00 01 41	1	
2003-03-28	910	15	15	15	13		09 07 28	00 01 33	09 10 32	00 03 04	1	
2003-03-28	911	0	0	0	0		09 07 28	00 00 00	09 54 06	00 46 38	0	No images, no end of train
2003-03-28	912	0	0	0	0		14 36 31	00 01 04	14 42 42	00 06 11	1	
2003-03-28	913	6	8	7	105		17 04 09	00 01 19	17 05 32	00 01 23	1	
2003-03-28	914	5	5	5	115		17 29 39	00 01 26	17 31 12	00 01 33	1	
2003-03-28	915	0	0	0	0		18 22 35	00 01 16	18 25 48	00 03 13	1	
2003-03-28	916	7	11	8	3281	90	18 53 42	00 05 44	19 00 48	00 07 06	1	
2003-03-28	917	0	0	0	0		19 01 01	00 01 23	19 04 36	00 03 35	1	
2003-03-28	918	4	12	9	1158		19 02 48	00 04 03	19 07 36	00 04 48	1	
2003-03-28	919	8	10	9	2057	48	20 23 40	00 03 38	20 28 34	00 04 54	1	
2003-03-28	920	3	9	7	863		21 54 36	00 04 58	21 59 40	00 05 04	1	
2003-03-28	921	0	0	0	0		22 00 29	00 01 42	22 04 22	00 03 53	1	
2003-03-29	922	5	7	6	368		12 00 35	00 01 49	12 02 50	00 02 15	1	
2003-03-29	923	6	8	7	413		12 43 32	00 01 46	12 45 16	00 01 44	1	
2003-03-29	924	2	10	8	8042	224	17 52 18	00 14 58	18 11 10	00 18 52	1	
2003-03-29	925	8	9	9	115		18 35 13	00 01 10	18 36 58	00 01 45	1	
2003-03-29	926	9	10	9	115		19 42 32	00 01 07	19 43 48	00 01 16	1	
2003-03-29	927	7	10	8	2153	60	20 19 58	00 03 54	20 24 54	00 04 56	1	

Number of moves :	59
Respect of criterias :	54
Process time performance :	**91.53%**

Table 40 shows the processing times for the moves that were analysed during the second week of acceptance tests.

Four train moves had processing times exceeding 20 minutes. Moves 869 and 888 had move duration of 00:35:10 and 00:32:37. The false detection for moves 903 and 911 had no EoT and no images.

Table 40 – Processing times (week 2 of acceptance tests)

Date	Move no	Speed Min	 Max	 Average	Length	Total of containers	Move time	Move duration	End process time	Process duration	Performance flag	Comments
2003-03-23	869	1	9	6	5834	147	00 21 04	00 35 10	00 56 28	00 35 24	0	Move duration 35 10
2003-03-23	870	2	9	5	751		12 12 00	00 09 56	12 23 04	00 11 04	1	
2003-03-23	871	0	10	7	1014		12 34 20	00 07 34	12 45 34	00 11 14	1	
2003-03-23	872	2	13	9	761		12 50 46	00 03 21	12 54 18	00 03 32	1	
2003-03-24	873	8	13	10	6287	181	16 27 58	00 08 27	16 39 04	00 11 06	1	
2003-03-24	874	2	12	8	8512	255	17 38 35	00 14 16	17 57 06	00 18 31	1	
2003-03-24	875	0	0	0	0		18 21 39	00 01 11	18 24 54	00 03 15	1	
2003-03-24	876	3	10	8	699		18 35 13	00 03 45	18 39 08	00 03 55	1	
2003-03-24	877	1	9	5	702		19 47 01	00 10 45	19 57 56	00 10 55	1	
2003-03-24	878	0	0	0	0		20 00 37	00 01 12	20 04 00	00 03 23	1	
2003-03-25	879	8	9	8	112		04 06 54	00 01 14	04 08 50	00 01 56	1	
2003-03-25	880	5	8	6	3212	73	04 47 25	00 04 56	04 54 06	00 06 41	1	
2003-03-25	881	5	7	6	285		07 55 27	00 01 37	07 57 16	00 01 49	1	
2003-03-25	882	7	10	8	374		10 23 39	00 01 37	10 25 22	00 01 43	1	
2003-03-25	883	5	5	5	26		11 26 20	00 01 14	11 27 46	00 01 26	1	
2003-03-25	884	9	15	11	4492	107	15 51 31	00 05 51	15 59 42	00 08 11	1	
2003-03-25	885	7	11	9	3271	89	16 51 06	00 04 55	16 57 00	00 05 54	1	
2003-03-25	886	1	12	7	345		19 04 54	00 03 07	19 08 12	00 03 18	1	
2003-03-25	887	1	13	8	1460		19 25 54	00 12 00	19 38 04	00 12 10	1	
2003-03-25	888	1	9	6	1769		23 07 09	00 32 27	23 39 52	00 32 43	0	Move duration 32 37
2003-03-26	889	1	10	7	7786	219	15 57 31	00 17 29	16 18 18	00 20 47	0	
2003-03-26	890	4	10	8	7153	213	18 03 29	00 12 01	18 20 04	00 16 35	1	
2003-03-26	891	5	11	7	177		18 35 54	00 02 40	18 38 44	00 02 50	1	
2003-03-26	892	3	13	9	1185		18 52 09	00 04 23	18 56 40	00 04 31	1	
2003-03-26	893	1	10	6	1165		19 37 37	00 06 30	19 44 10	00 06 33	1	
2003-03-26	894	4	7	6	56		19 44 26	00 01 43	19 46 50	00 02 24	1	
2003-03-26	895	0	0	0	0		19 52 28	00 01 27	19 55 34	00 03 06	1	
2003-03-27	896	11	12	11	112		05 31 29	00 01 05	05 32 42	00 01 13	1	
2003-03-27	897	9	11	10	1309	25	06 03 15	00 02 26	06 06 14	00 02 59	1	
2003-03-27	898	7	9	8	400		07 35 31	00 01 35	07 37 16	00 01 45	1	
2003-03-27	899	7	9	8	364		08 24 11	00 01 35	08 25 46	00 01 35	1	
2003-03-27	900	0	0	0	0		18 28 45	00 01 42	18 32 38	00 03 53	1	
2003-03-27	901	5	11	8	525		18 36 46	00 02 41	18 39 58	00 03 12	1	
2003-03-27	902	1	9	6	712		19 47 19	00 04 44	19 52 14	00 04 55	1	
2003-03-27	903	0	0	0	0		19 53 37	00 00 54	20 53 22	00 59 45	0	No end of train no images
2003-03-27	904	0	0	0	0		19 56 41	00 01 11	19 59 32	00 02 51	1	
2003-03-27	905	3	7	5	112		20 00 25	00 01 39	20 02 16	00 01 51	1	
2003-03-27	906	0	0	0	0		20 03 03	00 01 23	20 06 08	00 03 05	1	
2003-03-27	907	1	8	6	180		20 06 10	00 01 57	20 08 50	00 02 40	1	
2003-03-28	908	7	9	7	4850	130	06 34 35	00 08 28	06 44 42	00 10 07	1	
2003-03-28	909	9	10	10	158		07 23 48	00 01 09	07 25 29	00 01 41	1	
2003-03-28	910	15	15	15	13		09 07 28	00 01 33	09 10 32	00 03 04	1	
2003-03-28	911	0	0	0	0		09 07 28	00 00 00	09 54 06	00 46 38	0	No images no end of train
2003-03-28	912	0	0	0	0		14 36 31	00 01 04	14 42 42	00 06 11	1	
2003-03-28	913	6	8	7	105		17 04 09	00 01 19	17 05 32	00 01 23	1	
2003-03-28	914	5	5	5	115		17 29 39	00 01 26	17 31 12	00 01 33	1	
2003-03-28	915	0	0	0	0		18 22 35	00 01 16	18 25 48	00 03 13	1	
2003-03-28	916	7	11	8	3281	90	18 53 42	00 05 44	19 00 48	00 07 06	1	
2003-03-28	917	0	0	0	0		19 01 01	00 01 23	19 04 36	00 03 35	1	
2003-03-28	918	4	12	9	1158		19 02 48	00 04 03	19 07 36	00 04 48	1	
2003-03-28	919	8	10	9	2057	48	20 23 40	00 03 38	20 28 34	00 04 54	1	
2003-03-28	920	3	9	7	863		21 54 36	00 04 58	21 59 40	00 05 04	1	
2003-03-28	921	0	0	0	0		22 00 29	00 01 42	22 04 22	00 03 53	1	
2003-03-29	922	5	7	6	368		12 00 35	00 01 49	12 02 50	00 02 15	1	
2003-03-29	923	6	8	7	413		12 43 32	00 01 46	12 45 16	00 01 44	1	
2003-03-29	924	2	10	8	8042	224	17 52 18	00 14 58	18 11 10	00 18 52	1	
2003-03-29	925	8	9	9	115		18 35 13	00 01 10	18 36 58	00 01 45	1	
2003-03-29	926	9	10	9	115		19 42 32	00 01 07	19 43 48	00 01 16	1	
2003-03-29	927	7	10	8	2153	60	20 19 58	00 03 54	20 24 54	00 04 56	1	

Number of moves : 59
Respect of criterias : 54
Process time performance : 91,53%

Modifications

Modifications had to be made to solve the following problems:

1) Failure of the OCRail application
The OCRail software stopped during analysis. During the daily inspection, it was noticed that the OCRail program had stopped on computers Corail1 and Corail2. There was no indication of the origin of the shutdown in the OCRail's log file, which contains system diagnostics and trace logs. The computers were still on, and no electrical power loss had been reported.

DTI asked INO to investigate and determine the cause of the problem, which seemed intermittent. INO and DTI tried to reproduce the shutdown of the OCRail program but to no avail. INO tried a "burn test", but this test did not result in an unexplainable shutdown.

The source of the error did not seem to be the software, and the problem itself occurs too randomly to permit the finding of a common factor that would lead to the solution. It could be a conflict between software and hardware, or a problem with the hardware components of the computer.

INO had to modify the software to try to solve the problem. No correction had been done by March 31st 2003.

2) Excessive processing time
When a false detection occurred, the LICOs did not create the two grey images for the start and end of the train, as they should have. The OCRail software did not receive any images from the LICOs and thus could not send the ICR file to the AEI station for processing. The AEI then waited 45 minutes before creating the EDI file and transmitting it to POM.

In a situation where no images are created, the AEI software has to be modified to reduce the EDI file creation and transfer time so that processing takes less than 20 minutes. No correction had been done by March 31st 2003.

7 ADDITIONS MODIFICATIONS CARRIED OUT DURING THE TRIALS

7.1 Dimmers – Camera Target Lights

Initially, only one dimmer was used to adjust the target lights that set the camera lens apertures. It was not possible to adjust only one side without affecting the other. This problem occurred frequently when adjustments were made, and limited the quality of the images.

A second dimmer was thus installed, making it possible to adjust side 1 without affecting side 2 and vice versa. CCTC made this modification on September 11th 2002 at POM. The dual dimmer installation works very well, and both sides can now be adjusted independently. Figure 48 shows the two dimmers in place.

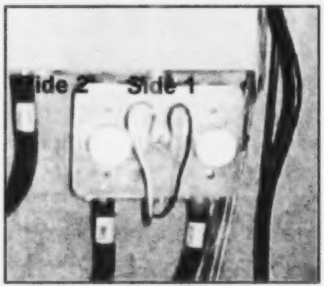


Figure 48 – Dimmers

7.2 Container Detectors – Light Pods ON and OFF

When locomotives passed by, the lights blinded the conductors. It was impossible to turn on the lights until a correction acceptable to Canadian National Railway (CN) was implemented. Consequently, the way the lights turn on and off was modified.

Initially, the lights turned on when an east, west or centre sensor was detected. With the new system, when a train enters the detection circuit, the lights remain off until the AEI detects an RF tag on a car. The lights are then turned on.

When the train is engaged and the lights are already on, they will go off if the program detects a locomotive RF tag or after the train has passed. Figure 49 shows the modification made to the solid state relay box by CCTC.

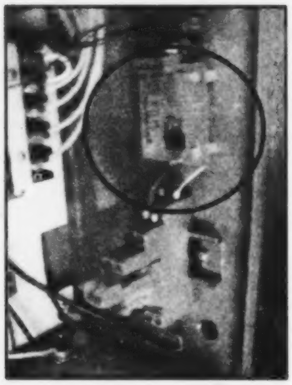


Figure 49 – Modification done

Subsequent to this modification and a two-week test period, POM and CN did not receive any complaints about the lights. This system has been in operation since August 19th 2002. Figure 51 shows the final results of this modification.

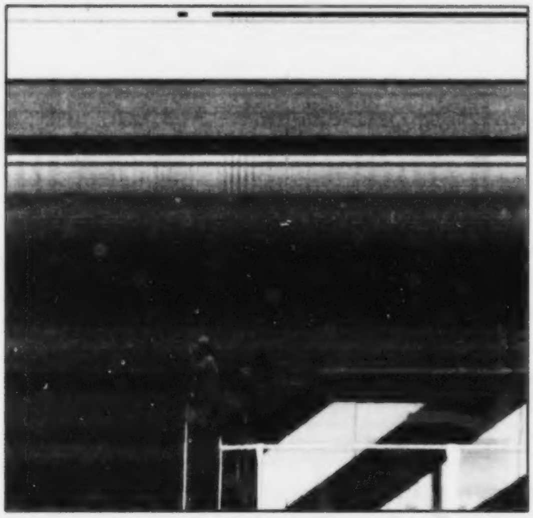


Figure 50 – Before modifications

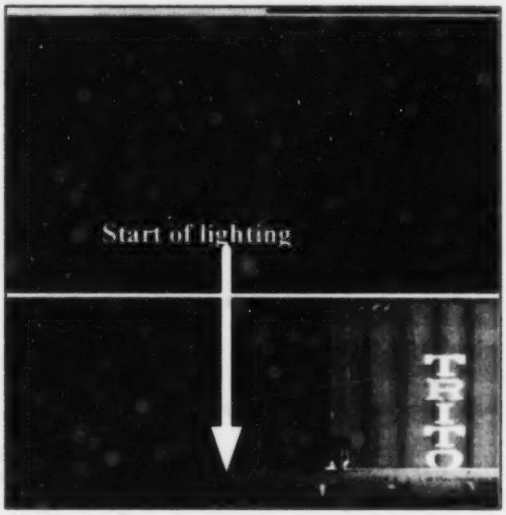


Figure 51 – After modifications

7.3 Container Detectors – Light Beams ON and OFF

When a train passed by, the container detection picked up the locomotive RF tags. The OCRail software then tried to find a code for an object that was actually the locomotive. This problem resulted in the detection of an incorrect code and reduced the effectiveness of the system.

CCTC made a change to activate the detection of containers only once the first RF tag for a railway car had passed, thereby eliminating the false detection of a locomotive.

A 10A relay was added to the solid state relay box on November 27th 2002 (see Figure 52). This relay is responsible for detecting the containers.

Figure 52 – Container detection

In the LICO software, the light beam signal is only sent once a railway car RF tag has been read. Figures 53 and 54 show the light beams before the modifications.

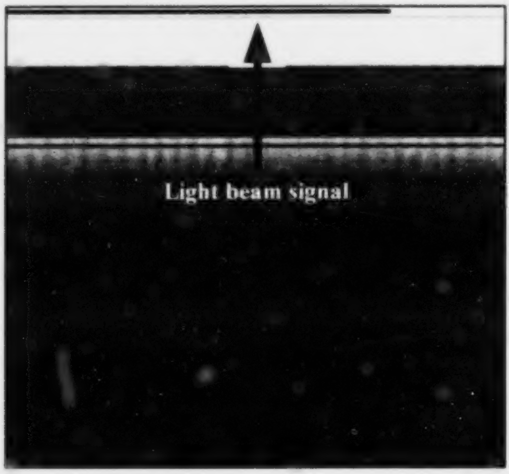

Light beam signal

Figure 53 – Locomotive before modifications

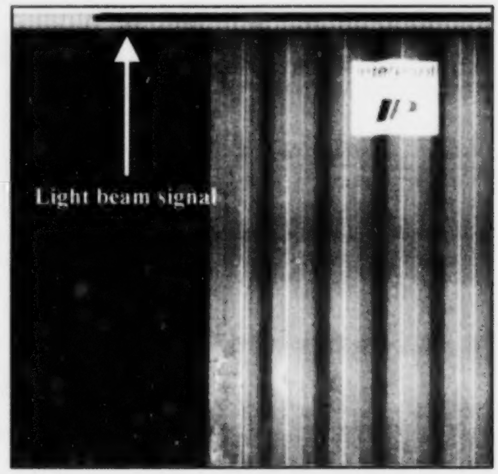

Light beam signal

Figure 54 – Container before modifications

Figures 55 and 56 show the final result when a locomotive and a container pass by. Note that the locomotive does not appear on the image because the lights do not turn on subsequent to the modification involving the container detectors (see section 7.2).

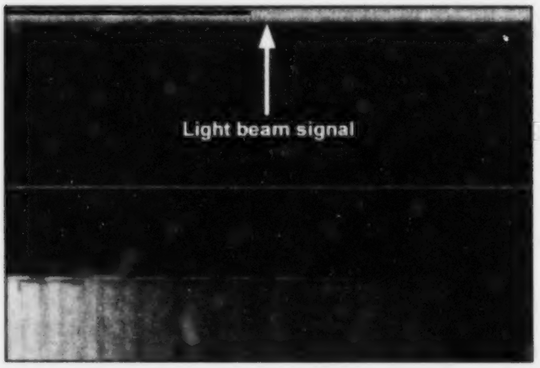

Light beam signal

Figure 55 – Locomotive after modifications

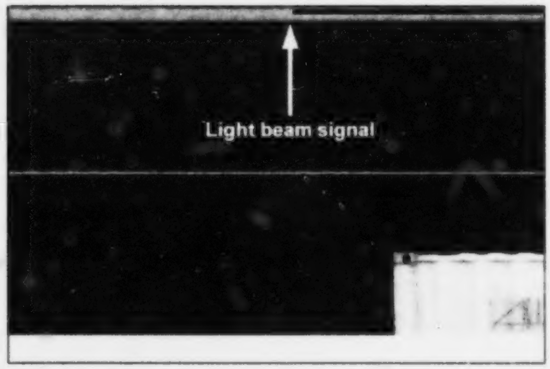

Light beam signal

Figure 56 – Container after modifications

7.4 Light Pod Fixture Replacement

The light fixtures that supported the light pods were replaced by CCTC on May 22nd and 23rd 2002 because of the corrosion of the parts.

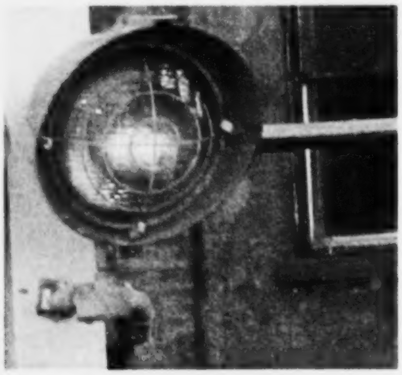


Figure 57 – Light pods before modifications

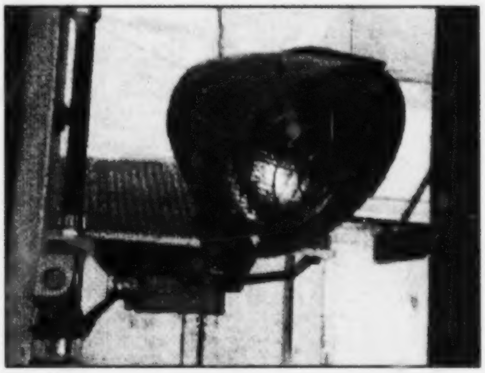


Figure 58 – Light pods after modifications

7.5 Wheel Sensor Replacement

When the wheel sensor was moved (see section 4.1.6), one of the sensors was found to be defective. The east wheel sensor was replaced on August 14th 2002. Tests were conducted on the same day to ensure it operated properly. Figure 59 shows the new sensor in place.

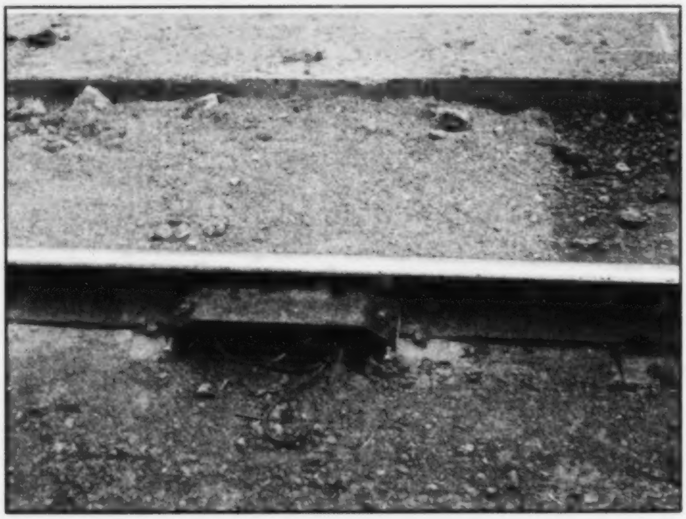
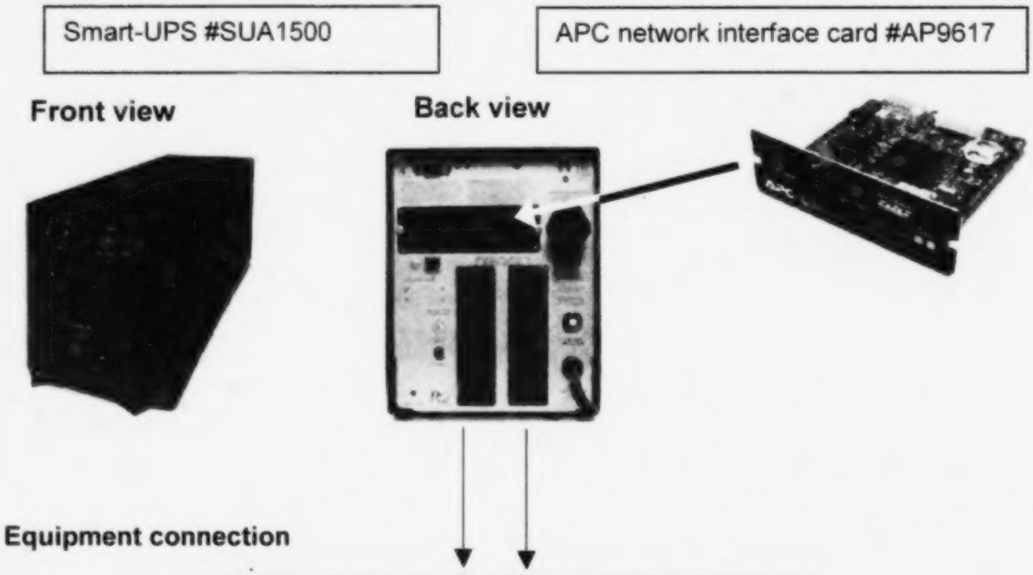


Figure 59 – New east sensor

7.6 UPS

A second UPS was installed in the bungalow on June 12th 2002 to enable all the computers to be protected and to keep the system operational during power failures so that the image analysis could be completed. The Corail2, LICO1 and LICO2 computers are connected to it, as well as the Startech switch for the right monitor. Figure 60 shows the UPS and its connections.


Smart-UPS #SUA1500
APC network interface card #AP9617
Front view
Back view
Equipment connection

LICO2	LICO1
Free	Free
Free	Free
Startech switch	Corail2

Figure 60 – UPS and equipment connections

7.6.1 Configuration of APC Network Interface Card

This network interface card makes it possible to shut down several computers at the same time, using the network in place. It is also used by the computers to communicate with the Smart-UPS for the UPS shutdown configurations (see Table 41).

Table 41 – UPS configuration

Configuration	Value
On-Battery shutdown behaviour	Return on line return
Return battery capacity	0%
Low-Battery duration	5 minutes
Shutdown delay	90 seconds
Return delay	180 seconds

On-Battery shutdown behaviour means that the UPS will start operating again when the power is restored.

Return battery capacity defines the minimum capacity required from the battery for the UPS to be able to restart after a shutdown caused by a power failure.

Low-Battery duration defines the time interval that the UPS will continue to run on battery power when the battery is low.

Shutdown delay defines the time interval before the UPS stops operating in response to a shutdown command.

Return delay defines the time interval before the UPS can restart after a shutdown caused by a power failure.

7.6.2 Workstation Configuration

The workstations were configured separately according to their task and the UPS's operating time. The first option tells the computer to shut down in the case of a power failure. The second option tells the computer when it must shut down after a power failure. The third option tells the computer whether it is responsible for putting the UPS into Sleeping status. Only one computer is responsible for putting the UPS into Sleeping status when all the other computers are shut down.

Table 42 – Workstation configuration

LICO1 configuration	**Value**
Yes, I want to shut down the system	Option checked
Shut down the system only when the event lasts this long (seconds)	2700
Turn off the UPS after the shutdown finishes	Option checked
LICO2 configuration	**Value**
Yes, I want to shut down the system	Option checked
Shut down the system only when the event lasts this long (seconds)	2700
Corail2 configuration	**Value**
Yes, I want to shut down the system	Option checked
Shut down the system only when the event lasts this long (seconds)	2700

If a power failure lasts more than 45 minutes, the LICO2 and Corail2 computers will shut down and the LICO1 computer is in charge of putting the UPS into Sleeping status. When the power is restored, the UPS will start operating to restart the computers. All the computers will start operating at the same time.

7.7 Reinforcement of Light Pods on Side 1

On side 1, the light post moved when there was wind, which caused poor lighting of the containers.

To reduce the effect of the wind on the post on side 1, two bracing bars were installed between the light post on side 1 and the empty post located next to it. The empty post was cut to the same height as the light post to reduce swaying. The bracing bars provide greater stability for the light post in bad weather. The reinforcement work was done on August 12th 2002.

Side 2 was not reinforced because there was no post next to it to brace it. Figure 61 shows the two bracing bars in place.

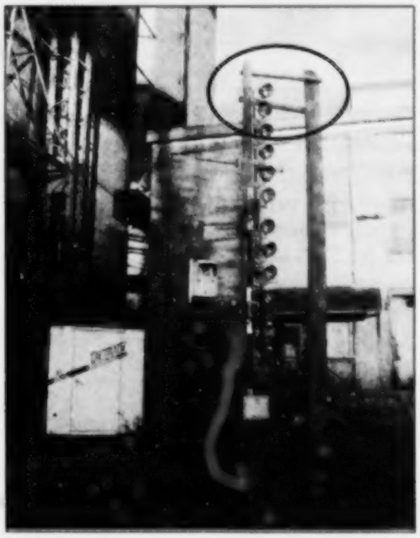


Figure 61 – Bracing bars

7.8 Images on Hard Disk

A 120 GB hard drive was returned to POM at the request of Richard Desaulniers. The hard drive contained images from the start of the project up to September 2002. The drive was returned on November 15th 2002.

A 100 GB hard drive was returned to POM at the request of Richard Desaulniers. The hard drive contained images from November 3rd 2002 to January 24th 2003. The drive was returned on January 29th 2002.

A 100 GB hard drive was returned to POM at the request of Richard Desaulniers. The hard drive contained images from January 24th 2003 to March 31st 2003. The drive was returned on April 16th 2003.

7.9 Computer Hardware Fix

DTI has replaced several computer parts since the start of the project:

Two APC Basic Surge protectors, 6-outlet

Two 1.44 floppy drives

One LG 52 X CD-ROM

Two Startech removable drive drawers

Two power supply for the LICO2

APC basic surge protector, 6-outlet
Two power bars were installed on the right wall and the back wall of the bungalow to replace the existing ones, which were defective. The one on the back wall provides power for the two Compaq monitors, the right UPS and the power supply card for the right rack that supplies the control box and the LICO and LININT boards. The one on the right wall provides power for the two RF antennas. Figure 62 shows the power bar.

Figure 62 – APC Basic Surge protector, 6-outlet 120V #P6

1.44 floppy drive
Two diskette drives were installed on the Corails because the original units were not compatible with the new cases. The new cases required non-standard diskette drives because the cases already had a front cover for these drives.

LG 52X CD-ROM
A CD-ROM drive was installed on the computer that simulates the AEI at DTI's offices.

Startech removable drive drawers
Two hard drive drawers were installed on the two Corails to install the INO software.

Power supply for LICO2
The power supply for LICO2 was replaced because it was defective.

7.10 RF Antenna Repair

The antenna on side 2 had a problem because its signal was not being received by the LININT board on LICO2. After checking it, CCTC removed the antenna on December 2nd 2002. The internal antenna card was replaced because of a defect.

This antenna was reinstalled at POM on December 5th 2002. Figure 63 shows the antenna in question.

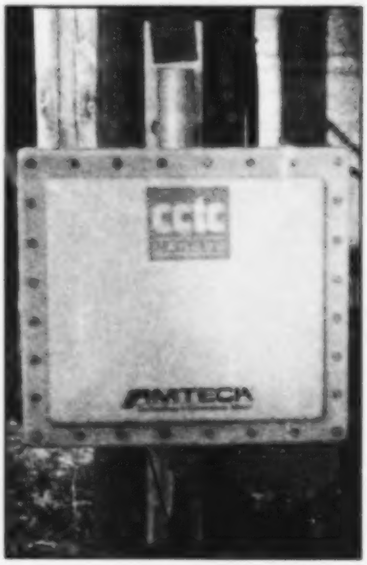


Figure 63 – RF antenna

7.11 Target Light Bulb on Side 1

CCTC replaced the target light bulb on side 1 on November 15th 2002 because of a defect. The dimmer on side 1 was then adjusted immediately after the target light bulb was changed, because installing a new light bulb changed the intensity. Figure 64 shows a target light.

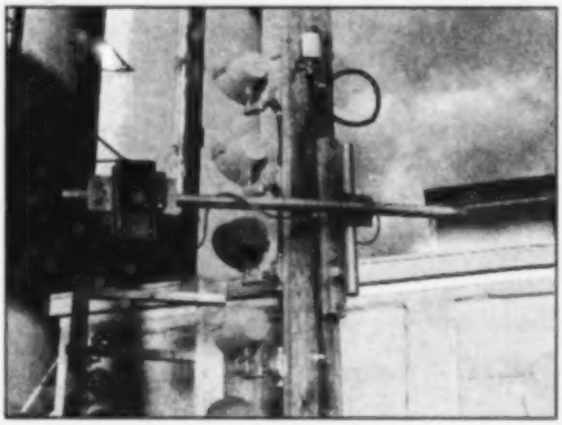
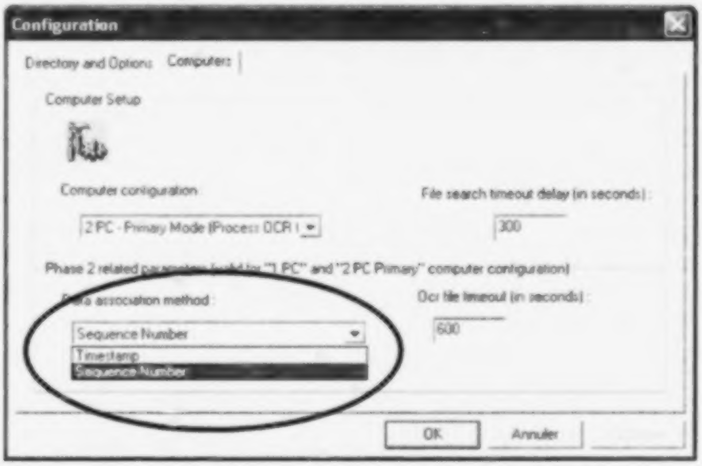


Figure 64 – Target light

7.12 OCRail Modification

Because of the problems encountered with the frame grabbers and timestamps, it was decided to add an option to INO's OCRail software to be able to choose the sequence number or timestamps for pairing the images.

This option is presented as a pull-down menu to choose between the Sequence Number or Timestamp (see Figure 65). The Sequence Number option takes the sequence number into account when analysing the images. The Timestamp option takes the timestamps into account, which are more precise that the sequence number when analysing the images. This modification was done on January 16th 2003.



Computer configuration: 2 PC - Primary Mode (Process OCR

File search timeout delay (in seconds): 300

Phase 2 related parameters (valid for "1 PC" and "2 PC Primary" computer configuration)

Data association method: Sequence Number

Ocr file timeout (in seconds): 600

Figure 65 – Pull-down menu

7.13 POM Computer

DTI upgraded a computer to simulate the link at POM. The upgrade was done because the existing computer was not compatible with the Microsoft Windows 2000 operating system. The parts came from Corail2 and the AEI.

The following hardware and software were purchased to complete the upgrade:

- 3COM network interface card
- Startech removable drive
- Microsoft Windows 2000 Pro
- Diskeeper Workstation 7

7.14 Frame Grabber Replacement

The frame grabbers continued to cause problems involving missing sequences in the images for the two sides, but not necessarily at the same time. Several solutions were considered to solve this problem.

Upgrading the LICOs to the Microsoft Windows 2000 operating system was supposed to solve the frame grabber failure problem, but this did not work. The new data translation driver for Windows 2000 had the same problem as Windows NT 4 driver.

Another option was to replace the driver for the frame grabbers. A new Data Translation driver was installed on LICO2 on November 18th 2002, but this did not solve the problem either. The latest version of the the driver had the same problem.

The final solution was to replace the frame grabbers with another model. This solution was retained subsequent to the meeting of November 7th 2002 at DTI's offices attended by CCTC, DTI, INO, POM and TDC.

The Matrox Genesis-LC card was tested at CCTC's laboratories and, following conclusive tests, this card was installed in LICO2 at POM on December 6th 2002.

This solution did not work, however, because the LICO's motherboard was not compatible with the Matrox card. A decision was made to replace the motherboard with one that was compatible with the Matrox card. Because the motherboard was changed, the processor, RAM and power supply were also replaced.

The signal received by the LININT boards was not strong enough because the distance between the RF antenna and the LININT boards was too great for the signal to be clearly interpreted. An RF antenna signal amplifier was installed at POM by CCTC on January 16th 2002 to solve this problem.

Figure 66 is an image of the RF antenna signal amplifier.

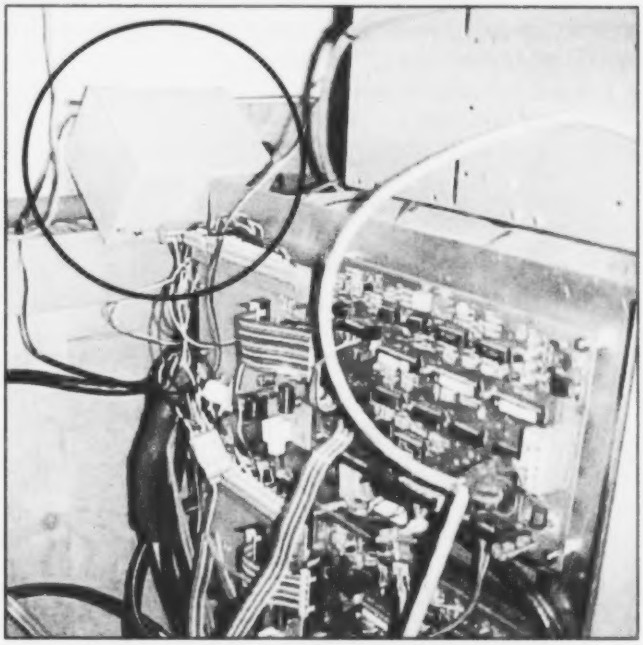


Figure 66 – Amplifier

The following new equipment was purchased:

- Two Matrox Genesis-LC Cards;
- Cables for the Matrox cards;
- One signal amplifier box from CCTC;
- Two TL_MB8000 motherboards;
- Two 1.8 MHz Pentium 4 CPUs;
- Two 256 MB DDR RAM memory sticks (one per computer);
- One power supply for LICO1.

7.15 Boot Leg

The boot leg used to link the A/B sensor had to be replaced because it was damaged. The damage was found by DTI on November 27th 2002.

Figure 67 shows the damaged boot leg.

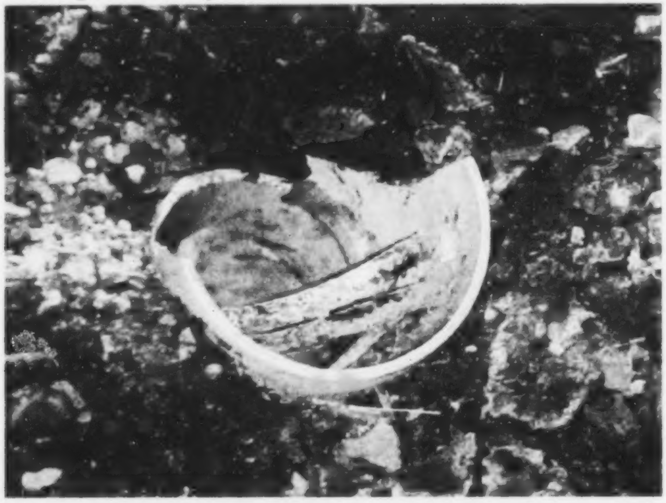


Figure 67 – Damaged Boot leg

Figure 68 shows the location of the boot leg.

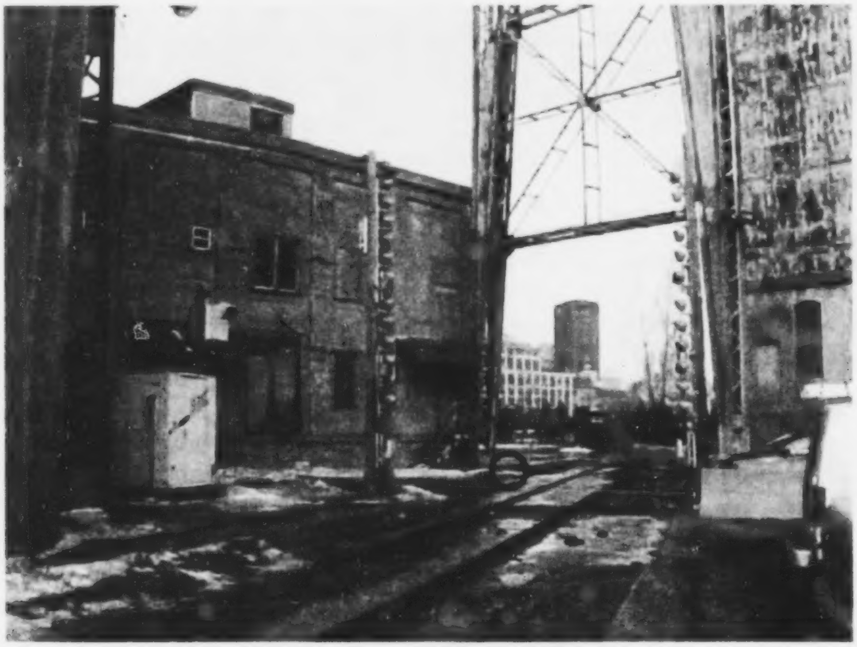


Figure 68 – Location of the boot leg

7.16 Solid State Relay

CCRC replaced solid state relay 3 because of a defect on January 24th 2003.

This solid state relay is for light pod 3. It corresponds to breaker 2 and provides power for lights 1, 3 and 5 below camera 2.

Figure 69 shows the solid state relay that was changed.

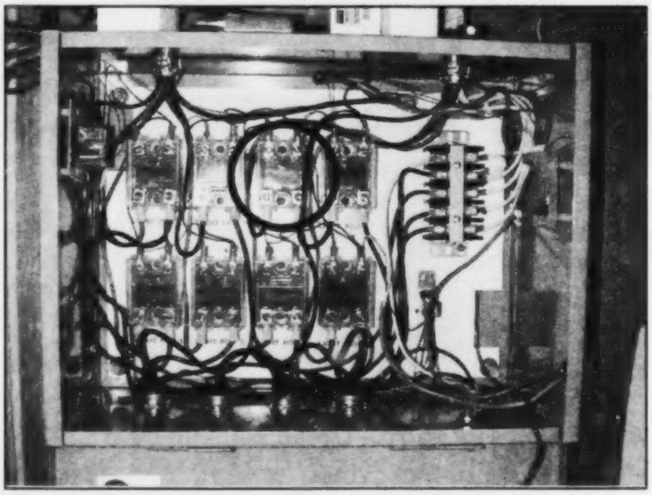


Figure 69 – Solid state relay 3

7.17 Second Hard Drive on Corails

A second hard drive was installed on the two Corails to run the OCRail application. This configuration makes it possible to avoid accessing the C: drives containing the operating system to ensure that they continue to operate properly. The installation, tests and configuration were done successfully on August 5th 2003.

7.18 Category 5 Cable

Two category 5 shielded and tested cables were installed in the bungalow on the UPS on the right and on POM computer to ensure that the entire system had good cabling.

7.19 Replacement of Light Bulb

The light bulb at the bottom of side 1 was replaced because of a defect on February 21st 2003. Figure 70 is a photo of the defective light bulb.

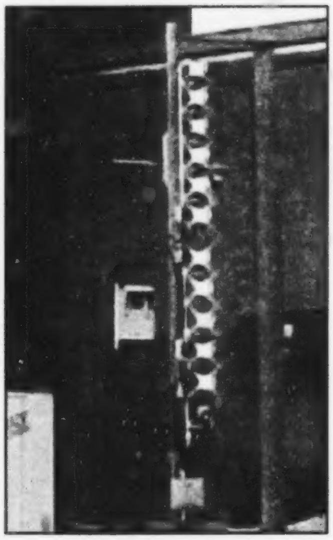


Figure 70 – Defective light bulb

7.20 Replacement of Wheel Sensor

Subsequent to a problem with the double moves with the same time, CCTC checked the wheel sensors and found that east sensor F1 was defective. CCTC replaced it on March 19th 2003. The defective wheel sensor will be refurbished by CCTC to have an extra one on hand in case another wheel sensor is damaged.

Figure 71 shows the defective wheel sensor.

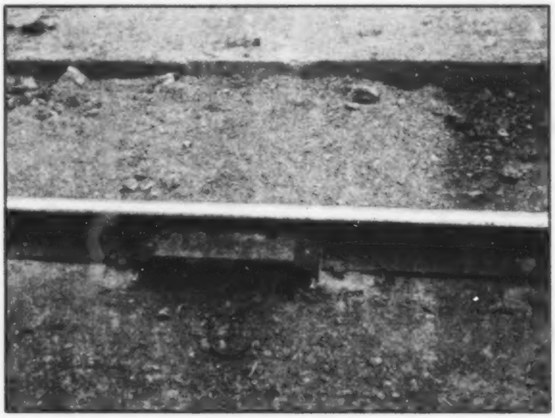


Figure 71 – East wheel sensor F1

7.21 Review of Compliance with ANSI X.12 Standard

The document for the EDI file produced by CCTC was reviewed to determine whether it complied with the ANSI X.12 standard. The review revealed a number of non-compliant situations. Many sections cannot be modified to be compliant with the standard unless they are removed.

It is recommended to leave the contents of the file as is.

7.22 Recovery of Computers

DTI produced a document to make it easier to recover the computers if there are problems with one or more of them. This document contains all the information required to install and configure all the computers and the UPSs.

8 ANALYSIS

8.1 Processing Time

DTI chose to base its processing time analysis approach on the criteria presented in Section 2. Given that no move was similar to the specifications of a reference train move, DTI retained an assumption, accepted by all stakeholders, which met the specified processing time requirements.

To achieve the objective set by POM and Transport Canada, the system would have to process the passage of a train in a time less than or equal to the time set for processing a reference train, or 20 minutes after detection. However, it is absolutely essential that this 6000 ft. train, which travels at a speed of 10 mph (within the established standard of 15 mph 5), take 6 minutes 49 seconds to cross the site completely (maximum duration of a reference train move).

The breakdown by average length of the trains observed shows that the average processing time is less than the established duration (see Table 43).

Table 43 – Breakdown by average length

Length (feet)	# of trains	# of trains with containers	Average # of containers	Average move duration	Average process duration
0 - 500	68			00:01:56	00:31:36
501 - 1 000	10			00:06:32	00:06:56
1 001 - 1 500	15	1	25	00:06:23	00:13:23
1 501 - 2 000	1			00:32:27	00:32:43
2 001 - 2 500	2	2	54	00:03:46	00:04:55
2 501 - 3 000	1	1	80	00:04:54	00:50:39
3 001 - 3 500	4	4	87	00:10:43	00:11:45
3 501 - 4 000	3	3	89	00:05:15	00:06:53
4 001 - 4 500	1	1	107	00:05:51	00:08:11
4 501 - 5 000	4	4	144	00:09:34	00:12:00
5 001 - 5 500	2	2	151	00:12:04	00:14:43
5 501 - 6 000	2	2	164	00:22:45	00:23:58
6 001 +	6	6	226	00:14:18	00:26:24
TOTAL	119	26			

Table 44 presents the processing times noted for the train moves analysed during the period. Note that performance is considered adequate if the two criteria mentioned above (i.e., 20-minute processing time and maximum duration of 6 minutes 49 seconds for a reference move) are maintained. If this is not the case, the objective is not achieved.

Table 44 – Processing times

Date	Move no	Speed Min	 Max	 Average	Length	Total of containers	Move time	Move duration	End process time	Process duration	Performance flag	Comments
2003-03-16	809	0	0	0	0		11 19 04	00 01 11	11 22 22	00 03 18	1	
	810	1	10	7	1171		11 45 43	00 05 52	11 52 12	00 06 29	1	
	811	1	12	8	1234		12 27 48	00 05 50	12 34 12	00 06 24	1	
	812	0	0	0	0		12 38 22	00 01 16	12 41 48	00 03 26	1	
	813	2	11	9	5473	152	20 46 19	00 10 37	21 00 04	00 13 45	1	
	814	8	10	9	112		21 35 36	00 01 46	21 37 54	00 02 18	1	
	815	0	0	0	0		21 35 36	00 00 00	22 22 56	00 47 20	0	F1 wheel sensor problem
2003-03-17	816	4	7	6	361		16 38 19	00 02 21	16 41 22	00 03 03	1	
	817	0	0	0	0		16 38 19	00 00 00	19 48 56	03 10 37	0	F1 wheel sensor problem
	818	11	11	11	115		16 48 03	00 01 52	16 50 04	00 02 01	1	
	819	3	10	9	3813	79	17 22 08	00 05 10	17 28 26	00 06 18	1	
	820	2	9	6	308		17 27 20	00 07 28	19 49 34	02 22 14	0	"AEI problem
	821	7	8	7	318		17 46 31	00 02 20	17 49 28	00 02 57	1	
	822	0	0	0	0		18 25 14	00 01 05	18 27 52	00 02 38	1	
	823	1	13	9	1293		18 58 01	00 05 20	19 03 56	00 05 55	1	
	824	1	12	8	1404		19 43 47	00 06 08	19 50 30	00 06 43	1	
	825	0	0	0	0		19 52 52	00 01 29	19 56 32	00 03 40	1	
2003-03-18	826	2	12	10	5171	149	05 42 19	00 13 31	05 58 00	00 15 41	1	
	827	9	10	9	112		06 20 59	00 01 03	06 21 58	00 00 59	1	
	828	7	13	11	4837	155	14 42 41	00 07 37	14 53 46	00 11 05	1	
	829	9	11	10	144		15 17 48	00 01 47	15 20 10	00 02 22	1	
	830	0	0	0	0		00 17 48	00 01 47	16 05 10	15 47 22	0	F1 wheel sensor problem
	831	0	0	0	0		16 30 17	00 01 32	16 32 58	00 02 41	1	
	832	0	10	7	1168		16 58 19	00 06 31	17 04 58	00 06 39	1	
	833	2	10	6	1293		18 07 28	00 06 07	18 13 48	00 06 20	1	
	834	0	0	0	0		18 33 38	00 01 53	18 36 40	00 03 02	1	
2003-03-19	835	5	6	6	230		06 43 54	00 06 07	06 48 08	00 04 14	1	
	836	0	0	0	0		06 43 54	00 00 00	09 00 46	02 16 52	0	F1 wheel sensor problem
	837	6	8	7	236		07 18 45	00 16 23	07 35 14	00 16 29	1	
	838	0	0	0	0		08 14 09	00 00 00	09 01 26	00 47 17	0	Wheel sensor repair
	839	0	0	0	0		08 14 09	00 01 33	09 02 04	00 47 55	0	Wheel sensor repair
	840	0	0	0	0		09 28 30	00 01 33	10 15 44	00 47 14	0	Wheel sensor repair
	841	9	13	10	3993	112	13 12 23	00 05 51	13 19 16	00 06 53	1	
	842	0	10	7	9821	265	15 55 59	00 18 36	17 08 34	01 12 35	0	OCRail program stopped
	843	9	9	9	56		16 21 45	00 01 03	17 09 14	00 47 29	0	OCRail program stopped
	844	0	0	0	0		18 38 20	00 01 36	19 58 20	01 20 00	0	OCRail program stopped
	845	0	6	3	171		18 54 33	00 10 41	19 58 58	01 04 25	0	OCRail program stopped
	846	3	10	8	1349		19 06 18	00 06 19	19 59 38	00 53 20	0	OCRail program stopped
	847	1	11	7	1296		21 27 02	00 06 31	22 23 26	00 56 24	0	OCRail program stopped
	848	0	0	0	0		21 36 31	00 01 35	22 24 04	00 47 33	0	OCRail program stopped
2003-03-20	849	10	12	11	112		02 56 02	00 01 05	03 42 17	00 46 15	0	OCRail program stopped
	850	5	11	9	2999	80	04 16 25	00 04 54	05 07 04	00 50 39	0	OCRail program stopped
	851	1	12	9	5975	181	16 04 25	00 10 20	16 16 58	00 12 33	1	
	852	0	0	0	0		16 47 47	00 01 37	16 50 58	00 03 11	1	
	853	8	9	8	115		16 54 25	00 01 11	16 56 16	00 01 51	1	
	854	1	14	9	948		17 16 13	00 04 01	17 20 52	00 04 39	1	
	855	1	12	6	1296		18 45 02	00 10 08	18 55 18	00 10 16	1	
	856	4	9	7	295		18 55 21	00 02 50	18 58 46	00 03 25	1	
2003-03-21	857	11	12	11	112		04 28 01	00 01 05	04 29 10	00 01 09	1	
	858	2	10	8	3130	97	05 10 03	00 27 15	05 37 20	00 27 17	0	Move duration 00 27 15
	859	6	9	8	289		06 44 55	00 01 27	06 46 34	00 01 39	1	
	860	7	10	9	443		07 55 41	00 01 37	07 57 28	00 01 47	1	
	861	6	13	10	4902	150	12 55 46	00 07 33	13 05 46	00 10 00	1	
	862	8	8	8	26		13 23 33	00 01 01	13 25 10	00 01 37	1	
	863	2	7	6	4896	139	15 47 50	00 14 40	16 04 38	00 16 48	1	
	864	0	0	0	0		20 13 22	00 02 04	20 17 06	00 03 44	1	
	865	1	8	5	938		20 18 32	00 11 45	20 31 00	00 12 28	1	
	866	1	8	6	817		21 48 34	00 09 24	21 58 06	00 09 32	1	
	867	0	0	0	0		22 04 47	00 01 35	22 08 02	00 03 15	1	
2003-03-22	868	7	12	9	3616	75	23 14 48	00 04 43	23 22 16	00 07 28	1	
2003-03-23	869	1	9	6	5834	147	00 21 04	00 35 10	00 56 28	00 35 24	0	Move duration 00 35 10
	870	2	9	5	751		12 12 00	00 09 56	12 23 04	00 11 04	1	
	871	0	10	7	1014		12 34 20	00 07 34	12 45 34	00 11 14	1	
	872	2	13	9	761		12 50 46	00 03 21	12 54 18	00 03 32	1	
2003-03-24	873	8	13	10	6287	181	16 27 58	00 08 27	16 39 04	00 11 06	1	
	874	2	12	8	8512	254	17 38 35	00 14 16	17 57 06	00 18 31	1	
	875	0	0	0	0		18 21 39	00 01 11	18 24 54	00 03 15	1	
	876	3	10	8	699		18 35 13	00 03 45	18 39 08	00 03 55	1	
	877	1	9	5	702		19 47 01	00 10 45	19 57 56	00 10 55	1	
	878	0	0	0	0		20 00 37	00 01 12	20 04 00	00 03 23	1	
2003-03-25	879	8	9	8	112		04 06 54	00 01 14	04 08 50	00 01 56	1	
	880	5	8	6	3212	73	04 47 25	00 04 56	04 54 06	00 06 41	1	
	881	5	7	6	285		07 55 27	00 01 37	07 57 16	00 01 49	1	

Table 44 – Processing times

Date	Move no	Speed			Length	Total of containers	Move time	Move duration	End process time	Process duration	Performance flag	Comments
		Min	Max	Average								
2003-03-16	809	0	0	0	0		11:19:04	00:01:11	11:22:22	00:03:18	1	
	810	1	10	7	1171		11:45:43	00:05:52	11:52:12	00:06:29	1	
	811	1	12	8	1234		12:27:48	00:05:50	12:34:12	00:06:24	1	
	812	0	0	0	0		12:38:22	00:01:16	12:41:48	00:03:26	1	
	813	2	11	9	5473	152	20:46:19	00:10:37	21:00:04	00:13:45	1	
	814	8	10	9	512		21:35:36	00:01:46	21:37:54	00:02:18	1	
	815	0	0	0	0		21:35:36	00:00:00	22:22:56	00:47:20	0	F1 wheel sensor problem
2003-03-17	816	4	7	6	361		16:38:19	00:02:21	16:41:22	00:03:03	1	
	817	0	0	0	0		16:38:19	00:00:00	19:48:56	03:10:37	0	F1 wheel sensor problem
	818	11	11	11	215		16:48:02	00:01:52	16:50:04	00:02:01	1	
	819	3	10	8	3813	79	17:22:08	00:05:10	17:28:26	00:06:18	1	
	820	2	9	6	308		17:27:20	00:07:28	19:49:34	02:22:14	0	*AEI problem
	821	7	8	7	318		17:46:31	00:02:20	17:49:28	00:02:57	1	
	822	0	0	0	0		18:25:14	00:01:05	18:27:52	00:02:38	1	
	823	1	13	9	1293		18:58:01	00:05:20	19:03:56	00:05:55	1	
	824	1	12	8	1404		19:43:47	00:06:08	19:50:30	00:06:43	1	
	825	0	0	0	0		19:52:52	00:01:29	19:56:32	00:03:40	1	
2003-03-18	826	2	12	10	5171	149	05:42:19	00:13:31	05:58:00	00:15:41	1	
	827	9	10	9	112		06:20:59	00:01:03	06:21:58	00:00:59	1	
	828	7	13	11	4837	155	14:42:41	00:07:37	14:53:46	00:11:05	1	
	829	9	11	10	144		15:17:48	00:01:47	15:20:10	00:02:22	1	
	830	0	0	0	0		00:17:48	00:01:47	16:05:10	15:47:22	0	F1 wheel sensor problem
	831	0	0	0	0		16:30:17	00:01:30	16:32:58	00:02:41	1	
	832	0	10	7	1168		16:58:19	00:06:21	17:04:58	00:06:39	1	
	833	2	10	8	1293		18:07:28	00:06:07	18:13:48	00:06:20	1	
	834	0	0	0	0		18:33:38	00:01:53	18:36:40	00:03:02	1	
2003-03-19	835	5	6	6	230		06:43:54	00:06:07	06:48:08	00:04:14	1	
	836	0	0	0	0		06:43:54	00:00:00	09:00:46	02:16:52	0	F1 wheel sensor problem
	837	6	8	7	236		07:18:45	00:16:20	07:35:14	00:16:29	1	
	838	0	0	0	0		08:14:09	00:00:00	09:01:26	00:47:17	0	Wheel sensor repair
	839	0	0	0	0		08:14:09	00:01:30	09:02:04	00:47:55	0	Wheel sensor repair
	840	0	0	0	0		09:28:30	00:01:33	10:15:44	00:47:14	0	Wheel sensor repair
	841	9	13	10	3993	112	13:12:23	00:05:51	13:19:16	00:26:53	1	
	842	0	10	7	9821	265	15:55:59	00:18:36	17:08:34	01:12:35	0	OCRail program stopped
	843	9	9	9	56		16:21:45	00:01:00	17:09:14	00:47:29	0	OCRail program stopped
	844	0	0	0	0		18:36:20	00:01:36	19:58:20	01:20:00	0	OCRail program stopped
	845	0	6	3	171		18:54:33	00:10:41	19:58:58	01:04:25	0	OCRail program stopped
	846	3	10	8	1349		19:06:18	00:06:19	19:59:38	00:53:20	0	OCRail program stopped
	847	1	11	7	1296		21:27:02	00:06:31	22:23:26	00:56:24	0	OCRail program stopped
	848	0	0	0	0		21:36:31	00:01:35	22:24:04	00:47:33	0	OCRail program stopped
2003-03-20	849	10	12	11	112		02:56:02	00:01:05	03:42:17	00:46:15	0	OCRail program stopped
	850	5	11	9	2999	80	04:16:25	00:04:54	05:07:04	00:50:39	0	OCRail program stopped
	851	1	12	9	5975	181	16:04:25	00:10:20	16:16:58	00:12:33	1	
	852	0	0	0	0		16:47:47	00:01:37	16:50:58	00:03:11	1	
	853	8	9	8	116		16:54:25	00:01:11	16:56:16	00:01:51	1	
	854	1	14	9	948		17:16:13	00:04:01	17:20:52	00:04:39	1	
	855	1	12	6	1296		18:45:02	00:10:08	18:55:18	00:10:16	1	
	856	4	9	7	295		18:55:21	00:02:50	18:58:46	00:03:25	1	
2003-03-21	857	11	12	11	112		04:28:01	00:01:05	04:29:10	00:01:09	1	
	858	2	10	8	3130	97	05:10:03	00:27:15	05:37:20	00:27:17	0	Move duration 00:27:15
	859	6	9	8	289		06:44:55	00:01:27	06:46:34	00:01:39	1	
	860	7	10	9	441		07:55:41	00:01:37	07:57:28	00:01:47	1	
	861	6	13	10	4902	150	12:55:46	00:07:33	13:05:46	00:10:00	1	
	862	8	8	8	26		13:23:33	00:01:01	13:25:10	00:01:37	1	
	863	2	7	6	4896	139	15:47:50	00:14:40	16:04:38	00:16:48	1	
	864	0	0	0	0		20:13:22	00:02:04	20:17:06	00:03:44	1	
	865	1	8	8	938		20:18:32	00:11:45	20:31:00	00:12:28	1	
	866	1	8	6	817		21:48:34	00:09:24	21:58:06	00:09:32	1	
	867	0	0	0	0		22:04:47	00:01:35	22:08:02	00:03:15	1	
2003-03-22	868	7	12	9	3616	75	23:14:48	00:04:43	23:22:16	00:07:28	1	
2003-03-23	869	1	9	6	5834	147	00:21:04	00:35:10	00:56:28	00:35:24	0	Move duration 00:35:10
	870	2	9	5	751		12:12:00	00:09:56	12:23:04	00:11:04	1	
	871	0	10	7	1014		12:34:20	00:07:34	12:45:34	00:11:14	1	
	872	2	13	9	761		12:50:46	00:03:21	12:54:18	00:03:32	1	
2003-03-24	873	8	13	10	6287	181	16:27:58	00:08:27	16:39:04	00:11:06	1	
	874	2	12	8	8512	254	17:38:35	00:14:16	17:57:06	00:18:31	1	
	875	0	0	0	0		18:21:39	00:01:11	18:24:54	00:03:15	1	
	876	3	10	8	699		18:35:13	00:03:45	18:39:08	00:03:55	1	
	877	1	9	5	702		19:47:01	00:10:45	19:57:56	00:10:55	1	
	878	0	0	0	0		20:00:37	00:01:12	20:04:00	00:03:23	1	
2003-03-25	879	8	9	8	112		04:06:54	00:01:14	04:08:50	00:01:56	1	
	880	5	8	6	3212	73	04:47:25	00:04:56	04:54:06	00:06:41	1	
	881	5	7	6	285		07:55:27	00:01:37	07:57:16	00:01:49	1	

Table 44 (continued) – Processing times

Date	Move no	Speed Min	Max	Average	Length	Total of containers	Move time	Move duration	End process time	Process duration	Performance flag	Comments
	882	7	10	8	374		10:23:39	00:01:37	10:25:22	00:01:43	1	
	883	5	5	5	26		11:26:20	00:01:14	11:27:46	00:01:26	1	
	884	9	15	11	4492	107	15:51:31	00:05:51	15:59:42	00:08:11	1	
	885	7	11	9	3271	89	16:51:06	00:04:55	16:57:00	00:05:54	1	
	886	1	12	7	345		19:04:54	00:03:07	19:08:12	00:03:18	1	
	887	1	13	8	1460		19:25:54	00:12:00	19:38:04	00:12:10	1	
	888	1	9	6	1769		23:07:09	00:32:27	23:39:52	00:32:43	0	Move duration 00:32:37
2003-03-26	889	1	10	7	7786	219	15:57:31	00:17:29	16:18:18	00:20:47	0	Two end-of-train
	890	4	10	8	7153	213	18:03:29	00:12:01	18:20:04	00:16:35	1	
	891	5	11	7	177		18:35:54	00:02:40	18:38:44	00:02:50	1	
	892	3	13	9	1185		18:52:09	00:04:23	18:56:40	00:04:31	1	
	893	1	10	6	1165		19:37:37	00:06:30	19:44:10	00:06:33	1	
	894	4	7	6	56		19:44:26	00:01:43	19:46:50	00:02:24	1	
	895	0	0	0	0		19:52:28	00:01:27	19:55:34	00:03:06	1	
2003-03-27	896	11	12	11	112		05:31:29	00:01:05	05:32:42	00:01:13	1	
	897	9	11	10	1309	25	06:03:15	00:02:26	06:06:14	00:02:59	1	
	898	7	9	8	400		07:35:31	00:01:35	07:37:16	00:01:45	1	
	899	7	9	8	364		08:24:11	00:01:35	08:25:49	00:01:38	1	
	900	0	0	0	0		18:28:45	00:01:42	18:32:38	00:03:53	1	
	901	5	11	8	523		18:36:46	00:02:41	18:39:58	00:03:12	1	
	902	1	9	6	712		19:47:19	00:04:44	19:52:14	00:04:55	1	
	903	0	0	0	0		19:53:37	00:00:54	20:53:22	00:59:45	0	No end of train, no images
	904	0	0	0	0		19:56:41	00:01:11	19:59:32	00:02:51	1	
	905	3	7	5	112		20:00:25	00:01:39	20:02:16	00:01:51	1	
	906	0	0	0	0		20:03:03	00:01:23	20:06:08	00:03:05	1	
	907	1	8	5	180		20:06:10	00:01:57	20:08:50	00:02:40	1	
2003-03-28	908	7	9	7	4850	130	06:34:35	00:08:28	06:44:42	00:10:07	1	
	909	9	10	10	158		07:23:48	00:01:09	07:25:29	00:01:41	1	
	910	15	15	15	13		09:07:28	00:01:30	09:10:32	00:03:04	1	
	911	0	0	0	0		09:07:28	00:00:00	09:54:06	00:46:38	0	No images, no end of train
	912	0	0	0	0		14:36:31	00:01:04	14:42:42	00:06:11	1	
	913	6	8	7	105		17:04:09	00:01:19	17:05:32	00:01:23	1	
	914	5	5	5	115		17:29:39	00:01:26	17:31:12	00:01:33	1	
	915	0	0	0	0		18:22:35	00:01:10	18:25:48	00:03:13	1	
	916	7	11	8	3281	90	18:53:42	00:05:44	19:00:48	00:07:06	1	
	917	0	0	0	0		19:01:01	00:01:22	19:04:36	00:03:35	1	
	918	4	13	9	1156		19:02:48	00:04:07	19:07:36	00:04:48	1	
	919	8	10	9	2057	48	20:23:40	00:01:39	20:28:34	00:04:54	1	
	920	3	9	7	963		21:54:36	00:04:58	21:59:40	00:05:04	1	
	921	0	0	0	0		22:00:29	00:01:42	22:04:22	00:03:53	1	
2003-03-29	922	5	7	6	368		12:00:35	00:01:49	12:02:50	00:02:15	1	
	923	6	8	7	413		12:43:32	00:01:46	12:45:16	00:01:44	1	
	924	2	10	8	8042	224	17:52:18	00:14:58	18:11:10	00:18:52	1	
	925	8	9	9	115		18:35:13	00:01:10	18:36:58	00:01:45	1	
	926	9	10	9	115		19:42:30	00:01:07	19:43:48	00:01:18	1	
	927	7	10	8	2153	60	20:19:58	00:03:54	20:24:54	00:04:56	1	

Number of moves :	119
Respect of criterias :	96
Process time performance :	80.67%

As indicated in Table 44, 23 moves did not conform to the 20-minute limit. However, seven of them had a move duration greater than the fixed maximum. These exceptions are listed in Table 45.

Table 45 – Processing times – exceptions

Move #	Move duration	Processing duration
820	7 min 28 sec	2 hr 22 min 14 sec
842	18 min 36 sec	1 hr 12 min 35 sec
845	18 min 36 sec	2 hr 04 min 25 sec
858	27 min 15 sec	27 min 17 sec
869	35 min 10 sec	35 min 24 sec
888	32 min 27 sec	35 min 24 sec
889	17 min 29 sec	20 min 47 sec

Table 44 (continued) – Processing times

		Speed				Total of		Move	End process	Process	Performance	
Date	Move no	Min	Max	Average	Length	containers	Move time	duration	time	duration	flag	Comments
	882	7	10	8	374		10 23 39	00 01 37	10 25 22	00 01 43	1	
	883	5	5	5	26		11 26 20	00 01 14	11 27 46	00 01 26	1	
	884	9	15	11	4492	107	15 51 31	00 05 51	15 59 42	00 08 11	1	
	885	7	11	9	3271	89	16 51 06	00 04 55	16 57 00	00 05 54	1	
	886	1	12	7	345		19 04 54	00 03 07	19 08 12	00 03 18	1	
	887	1	13	8	1460		19 25 54	00 12 00	19 38 04	00 12 10	1	
	888	1	9	6	1769		23 07 09	00 32 27	23 39 52	00 32 43	0	Move duration 00 32 37
2003-03-26	889	1	10	7	7786	219	15 57 31	00 17 29	16 18 18	00 20 47	0	Two end-of-train
	890	4	10	8	7153	213	18 03 29	00 12 01	18 20 04	00 16 35	1	
	891	5	11	7	177		18 35 54	00 02 40	18 38 44	00 02 50	1	
	892	3	13	9	1185		18 52 09	00 04 23	18 56 40	00 04 31	1	
	893	1	10	6	1165		19 37 37	00 06 30	19 44 10	00 06 33	1	
	894	4	7	6	56		19 44 26	00 01 43	19 46 50	00 02 24	1	
	895	0	0	0	0		19 52 28	00 01 27	19 55 34	00 03 06	1	
2003-03-27	896	11	12	11	112		05 31 29	00 01 05	05 32 42	00 01 13	1	
	897	9	11	10	1309	25	06 03 15	00 02 26	06 06 14	00 02 59	1	
	898	7	9	8	400		07 35 31	00 01 35	07 37 16	00 01 45	1	
	899	7	9	8	364		08 24 11	00 01 35	08 25 46	00 01 35	1	
	900	0	0	0	0		18 28 45	00 01 42	18 32 38	00 03 53	1	
	901	5	11	8	525		18 36 46	00 02 41	18 39 58	00 03 12	1	
	902	1	9	6	712		19 47 19	00 04 44	19 52 14	00 04 55	1	
	903	0	0	0	0		19 53 37	00 00 54	20 53 22	00 59 45	0	No end of train no images
	904	0	0	0	0		19 56 41	00 01 11	19 59 32	00 02 51	1	
	905	3	7	5	112		20 00 25	00 01 39	20 02 16	00 01 51	1	
	906	0	0	0	0		20 03 03	00 01 23	20 06 08	00 03 05	1	
	907	1	6	6	180		20 06 10	00 01 57	20 08 50	00 02 40	1	
2003-03-28	908	7	9	7	4850	130	06 34 35	00 08 28	06 44 42	00 10 07	1	
	909	9	10	10	156		07 23 48	00 01 09	07 25 29	00 01 41	1	
	910	15	15	15	13		09 07 28	00 01 33	09 10 32	00 03 04	1	
	911	0	0	0	0		09 07 28	00 00 00	09 54 06	00 46 38	0	No images no end of train
	912	0	0	0	0		14 36 31	00 01 04	14 42 42	00 06 11	1	
	913	6	8	7	105		17 04 09	00 01 19	17 05 32	00 01 23	1	
	914	5	5	5	115		17 29 39	00 01 26	17 31 12	00 01 33	1	
	915	0	0	0	0		18 22 35	00 01 16	18 25 48	00 03 13	1	
	916	7	11	8	3281	90	18 53 42	00 05 44	19 00 48	00 07 06	1	
	917	0	0	0	0		19 01 01	00 01 23	19 04 36	00 03 35	1	
	918	4	12	9	1158		19 02 48	00 04 03	19 07 36	00 04 48	1	
	919	8	10	9	2057	48	20 23 40	00 03 38	20 28 34	00 04 54	1	
	920	3	9	7	863		21 54 36	00 04 58	21 59 40	00 05 04	1	
	921	0	0	0	0		22 00 29	00 01 42	22 04 22	00 03 53	1	
2003-03-29	922	5	7	6	368		12 00 35	00 01 49	12 02 50	00 02 15	1	
	923	6	8	7	413		12 43 32	00 01 46	12 45 16	00 01 44	1	
	924	2	10	8	8042	224	17 52 18	00 14 58	18 11 10	00 18 52	1	
	925	8	9	9	115		18 35 13	00 01 10	18 36 58	00 01 45	1	
	926	9	10	9	115		19 42 32	00 01 07	19 43 48	00 01 16	1	
	927	7	10	8	2153	60	20 19 58	00 03 54	20 24 54	00 04 56	1	

Number of moves :	119
Respect of criterias :	96
Process time performance :	80,67%

As indicated in Table 44, 23 moves did not conform to the 20-minute limit. However, seven of them had a move duration greater than the fixed maximum. These exceptions are listed in Table 45.

Table 45 – Processing times – exceptions

Move #	Move duration	Processing duration
820	7 min 28 sec	2 hr 22 min 14 sec
842	18 min 36 sec	1 hr 12 min 35 sec
845	18 min 36 sec	2 hr 04 min 25 sec
858	27 min 15 sec	27 min 17 sec
869	35 min 10 sec	35 min 24 sec
888	32 min 27 sec	35 min 24 sec
889	17 min 29 sec	20 min 47 sec

Move 820 was linked to an AEI program problem.

Moves 842 and 845 were linked to an OCR program problem. During the daily inspection, it was noticed that the OCRail program had stopped on computers Corail1 and Corail2. There was no indication of the origin of the closedown in the OCRail's log file, which contains system diagnostics and trace logs. The computers were still on, and no electrical power loss had been reported. DTI asked INO to investigate and determine the cause of the problem, which seemed intermittent. INO and DTI tried to reproduce the shutdown of the OCRail program, but to no avail. INO tried a "burn test" on move 842, but this test did not result in an unexplainable shutdown. The source of the error did not seem to be the software, and the problem itself occurs too randomly to permit the finding of a common factor that would lead to the solution. It could be a conflict between software and hardware, or a problem with the hardware components of the computer. INO modified the OCRail program to increase the number of entries in the log file in order to identify where the problem occurs. The error does not affect the accuracy of the program or the results in any way, but it does cause some delays in the data transfer time to POM. This problem occurred one or two times per week, and a manual intervention was required to restart the program. It would be possible to make a quick fix to correct the problem by adding a "watch dog" connected to the execution of the program.

Moves 858, 869 and 888 had move durations overs 20 minutes.

Move 889 had two EoT problems. CCTC made a software modification to fix this problem.

8.2 Accuracy

The most important acceptance criterion for the AEI/OCR system is the level of accuracy obtained by the OCR program in the identification of container numbers. The OCR system is required to achieve an overall performance of 80% recognition accuracy of standard ISO container identification numbers.

The accuracy of the information transmitted via an EDI train consist file to POM corresponds exactly to the ability of the OCR program to determine the identification code marked on the container. The level of accuracy was achieved despite the following difficulties associated with reading these codes:

- Non-conformance with the ISO 6346 container identification standard
- Shadow effects due to the physical corrugations on the containers
- Nature of the platforms used to transport the containers
- Underexposure or overexposure of the captured images
- Physical condition (e.g., rusted containers)
- Weather conditions
- Different shades and/or colours used on the containers.

In the accuracy calculation, DTI took into account all validity criteria described in Section 2.

Two weeks of acceptance tests confirmed that it would be possible to meet the 80% OCR accuracy target.

Table 46 presents the results obtained on 26 moves observed during the test period.

Table 46 – Moves with containers

DTI : **Moves with containers**

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		Comments
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	
2003-03-16	813	431	431	152	148	**77,52%**	100	23	**82,84%**	111	18	**92,57%**	137	
2003-03-17	819	223	223	79	78	**78,79%**	52	13	**85,92%**	61	8	**92,31%**	72	
2003-03-18	826	383	383	149	141	**68,46%**	89	19	**78,40%**	98	24	**91,49%**	129	
	828	382	382	155	153	**79,07%**	102	26	**84,78%**	117	17	**86,93%**	133	
2003-03-19	841	287	287	112	109	**82.61%**	76	20	**85,15%**	86	11	**91,74%**	100	
	842	614	614	265	258	**74,26%**	176	28	**79,65%**	180	39	**90,70%**	234	
2003-03-20	850	209	209	80	79	**85,51%**	59	11	**84,72%**	61	8	**91,14%**	72	
	851	439	439	181	177	**72.96%**	116	22	**74,12%**	126	11	**93,22%**	165	
2003-03-21	858	612	612	97	94	**86,59%**	71	15	**70,00%**	56	17	**87,23%**	82	
	861	375	375	150	145	**84,50%**	109	21	**87,40%**	111	23	**94,48%**	137	
	863	303	303	139	136	**85,47%**	100	22	**81,20%**	95	22	**94,85%**	129	
2003-03-22	868	208	208	75	70	**78,79%**	52	9	**79,37%**	50	12	**97,14%**	68	
2003-03-23	869	361	361	147	140	**79,66%**	94	29	**71,90%**	87	26	**90,00%**	126	
2003-03-24	873	434	434	181	169	**66,45%**	101	29	**71,64%**	96	47	**86,39%**	146	
	874	535	535	254	241	**84,54%**	175	47	**73,54%**	139	65	**88,38%**	213	
2003-03-25	880	149	149	73	70	**76,19%**	48	10	**89,23%**	58	8	**90,00%**	63	
	884	338	338	107	104	**63,83%**	60	13	**59,09%**	52	19	**81,73%**	85	
	885	214	217	89	82	**83,10%**	59	18	**72,73%**	48	23	**90,24%**	74	
2003-03-26	889	552	551	219	213	**90,06%**	163	38	**83,70%**	154	35	**93,90%**	200	
	890	481	481	213	206	**90,80%**	158	39	**88,64%**	156	37	**95,15%**	196	
2003-03-27	897	88	88	25	24	**95,24%**	20	4	**75,00%**	18	1	**95,83%**	23	
2003-03-28	908	314	314	130	123	**88,12%**	89	29	**85,15%**	86	29	**91,06%**	112	
	916	231	231	90	88	**75,34%**	55	17	**86,30%**	63	17	**92,05%**	81	
	919	137	137	48	45	**81,82%**	27	15	**76,74%**	33	5	**93,33%**	42	
2003-03-29	924	558	558	224	209	**79,17%**	133	56	**86,19%**	156	43	**92,82%**	194	
	927	145	145	60	57	**78,00%**	39	10	**91,84%**	45	11	**94,74%**	54	

SUMMARY

Total # of containers:	**3494**
Total # of valid containers :	**3359**
Total # of code found CAM 1:	**2323**
Total # of code found CAM 2:	**2343**
Total # of code found PoM:	**3067**

INVALIDITY

Total # of invalid containers C1 :	**583**
Total # of invalid containers C2 :	**576**
Total # of invalid containers :	**135**
Invalidity rate C1 :	**16,69%**
Invalidity rate C2 :	**16,49%**
Global invalidity rate :	**3,86%**

PoM	**Mean Accuracy/all cont.**	**87,78%**
	Mean Accuracy/valid cont.	**91,31%**
Cam 1	**Mean Accuracy/all cont. C1**	**66,49%**
	Mean Accuracy/valid cont. C1	**79,80%**
Cam 2	**Mean Accuracy/all cont. C2**	**67,06%**
	Mean Accuracy/valid cont. C2	**80,29%**

8.2.1 Day/Night Accuracy

No difference in results between day and night was observed.

The basis of selection of the moves for Tables 47 and 48 is:

- Daytime: from 6:00 a.m. to 8:00 p.m.
- Nighttime: from 8:00 p.m. to 6:00 a.m.

Table 47 – Daytime accuracy rate

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2003-03-17	819	223	223	79	78	78,79%	52	13	85,92%	61	8	92,31%	72	3	10	9
2003-03-18	828	382	382	155	153	79,07%	102	26	84,78%	117	17	86,93%	133	7	13	11
2003-03-19	841	287	287	112	109	82,61%	76	20	85,15%	86	11	91,74%	100	9	13	10
	842	614	614	265	258	74,26%	176	28	79,65%	180	39	90,70%	234	0	10	7
2003-03-20	851	439	439	181	177	72,96%	116	22	74,12%	126	11	93,22%	165	1	12	9
2003-03-21	861	375	375	150	145	84,50%	109	21	87,40%	111	23	94,48%	137	6	13	10
	863	303	303	139	136	85,47%	100	22	81,20%	95	22	94,85%	129	2	7	6
2003-03-24	873	434	434	181	169	66,45%	101	29	71,64%	96	47	86,39%	146	8	13	10
	874	535	535	254	241	84,54%	175	47	73,54%	139	65	88,38%	213	2	12	8
2003-03-25	884	338	338	107	104	63,83%	60	13	59,09%	52	19	81,73%	85	9	15	11
	885	214	217	89	82	83,10%	59	18	72,73%	48	23	90,24%	74	7	11	9
2003-03-26	889	552	551	219	213	90,06%	163	38	83,70%	154	35	93,90%	200	1	10	7
	890	481	481	213	206	90,80%	158	39	88,64%	156	37	95,15%	196	4	10	8
2003-03-27	897	88	88	25	24	95,24%	20	4	75,00%	18	1	95,83%	23	9	11	10
2003-03-28	908	314	314	130	123	88,12%	89	29	85,15%	86	29	91,06%	112	7	9	7
	916	231	231	90	88	75,34%	55	17	86,30%	63	17	92,05%	81	7	11	8
2003-03-29	924	558	558	224	209	79,17%	133	56	86,19%	156	43	92,82%	194	2	10	8

SUMMARY

Total # of containers:	2613
Total # of valid containers :	2515
Total # of code found CAM 1:	1744
Total # of code found CAM 2:	1744
Total # of code found PoM:	2294

INVALIDITY

Total # of invalid containers C1 :	442
Total # of invalid containers C2 :	447
Total # of invalid containers :	98
Invalidity rate C1 :	16,92%
Invalidity rate C2 :	17,11%
Global invalidity rate :	3,75%

PoM	Mean Accuracy/all cont.	87,79%
	Mean Accuracy/valid cont.	91,21%
Cam 1	Mean Accuracy/all cont. C1	66,74%
	Mean Accuracy/valid cont. C1	80,33%
Cam 2	Mean Accuracy/all cont. C2	66,74%
	Mean Accuracy/valid cont. C2	80,52%

Table 48 – Nighttime accuracy rate

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2003-03-16	813	431	431	152	148	77,52%	100	23	82,84%	111	18	92,57%	137	2	11	9
2003-03-18	826	383	383	149	141	68,46%	89	19	78,40%	98	24	91,49%	129	2	12	10
2003-03-20	850	209	209	80	79	85,51%	59	11	84,72%	61	8	91,14%	72	5	11	9
2003-03-21	858	612	612	97	94	86,59%	71	15	70,00%	56	17	87,23%	82	2	10	8
2003-03-22	868	208	208	75	70	78,79%	52	9	79,37%	50	12	97,14%	68	7	12	9
2003-03-23	869	361	361	147	140	79,66%	94	29	71,90%	87	26	90,00%	126	1	9	6
2003-03-25	880	149	149	73	70	76,19%	48	10	89,23%	58	8	90,00%	63	5	8	6
2003-03-28	919	137	137	48	45	81,82%	27	15	76,74%	33	5	93,33%	42	8	10	9
2003-03-29	927	145	145	60	57	78,00%	39	10	91,84%	45	11	94,74%	54	7	10	8

SUMMARY

Total # of containers:	881
Total # of valid containers :	844
Total # of code found CAM 1:	579
Total # of code found CAM 2:	599
Total # of code found PoM:	773

INVALIDITY

Total # of invalid containers C1 :	141
Total # of invalid containers C2 :	129
Total # of invalid containers :	37
Invalidity rate C1 :	16,00%
Invalidity rate C2 :	14,64%
Global invalidity rate :	4,20%

PoM	Mean Accuracy/all cont.	87,74%
	Mean Accuracy/valid cont.	91,59%
Cam 1	Mean Accuracy/all cont. C1	65,72%
	Mean Accuracy/valid cont. C1	78,24%
Cam 2	Mean Accuracy/all cont. C2	67,99%
	Mean Accuracy/valid cont. C2	79,65%

Table 46 presents the results obtained on 26 moves observed during the test period.

Table 46 – Moves with containers

DTI : **Moves with containers**

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		Comments
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	
2003-03-16	813	431	431	152	148	77.52%	100	23	82.84%	111	18	92.57%	137	
2003-03-17	819	223	223	79	78	78.79%	52	13	85.92%	61	6	92.31%	72	
2003-03-18	826	383	383	144	141	68.46%	89	19	78.40%	98	24	91.49%	129	
	828	382	382	155	153	79.07%	102	28	84.78%	117	17	86.93%	133	
2003-03-19	841	287	287	112	109	82.61%	76	20	85.15%	86	11	91.74%	100	
	842	614	614	265	258	74.26%	176	28	79.65%	180	39	90.70%	234	
2003-03-20	850	209	209	80	79	85.51%	59	11	84.72%	61	8	91.14%	72	
	851	439	439	181	177	72.96%	116	22	74.12%	126	11	93.22%	165	
2003-03-21	858	612	612	97	94	86.59%	71	15	70.00%	56	17	87.23%	82	
	861	376	376	156	145	84.50%	109	21	87.40%	111	23	94.48%	137	
	863	303	303	139	136	85.47%	100	22	81.20%	95	22	94.85%	129	
2003-03-22	866	208	208	73	70	78.79%	52	9	79.37%	50	12	97.14%	68	
2003-03-23	869	361	361	147	140	79.66%	94	29	71.90%	87	26	90.00%	126	
2003-03-24	873	434	434	181	169	66.45%	101	28	71.64%	96	47	86.39%	146	
	874	535	535	254	241	84.54%	175	47	73.54%	139	65	88.38%	213	
2003-03-25	880	149	149	73	70	76.19%	48	10	89.23%	58	5	90.00%	63	
	884	338	338	107	104	63.83%	60	13	59.09%	52	19	81.73%	85	
	885	214	217	89	82	83.10%	59	18	72.73%	48	23	90.24%	74	
2003-03-26	889	552	551	219	213	90.06%	163	38	83.70%	154	35	93.90%	200	
	890	481	481	213	206	90.80%	158	30	88.64%	156	37	95.15%	196	
2003-03-27	897	88	88	25	24	95.24%	20	4	75.00%	15	1	95.83%	23	
2003-03-28	908	314	314	130	123	88.12%	89	29	85.15%	86	29	91.06%	112	
	918	231	231	90	88	75.34%	55	17	86.30%	63	17	92.05%	81	
	919	137	137	48	45	81.82%	27	15	76.74%	33	5	93.33%	42	
2003-03-29	924	558	558	224	209	79.17%	133	50	86.19%	156	43	92.82%	194	
	927	145	145	60	57	78.00%	39	10	91.84%	45	11	94.74%	54	

SUMMARY

Total # of containers :	3494
Total # of valid containers :	3359
Total # of code found CAM 1 :	2323
Total # of code found CAM 2 :	2343
Total # of code found PoM :	3067

INVALIDITY

Total # of invalid containers C1 :	583
Total # of invalid containers C2 :	576
Total # of invalid containers :	135
Invalidity rate C1	16.69%
Invalidity rate C2	16.49%
Global invalidity rate	3.86%

PoM	Mean Accuracy/all cont.	87.78%
	Mean Accuracy/valid cont.	91.31%
Cam 1	Mean Accuracy/all cont. C1	66.49%
	Mean Accuracy/valid cont. C1	79.80%
Cam 2	Mean Accuracy/all cont. C2	67.06%
	Mean Accuracy/valid cont. C2	80.29%

8.2.1 Day/Night Accuracy

No difference in results between day and night was observed.

The basis of selection of the moves for Tables 47 and 48 is:

- Daytime: from 6:00 a.m. to 8:00 p.m.
- Nighttime: from 8:00 p.m. to 6:00 a.m.

Table 47 – Daytime accuracy rate

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2003-03-17	819	223	223	79	78	78.79%	52	13	85.92%	61	8	92.31%	72	3	10	[illegible]
2003-03-18	828	382	382	155	153	79.07%	102	26	84.78%	117	17	86.93%	133	7	12	11
2003-03-19	841	287	287	112	109	82.61%	76	20	85.15%	86	11	91.74%	100	8	13	[illegible]
	842	614	614	265	258	74.26%	176	28	79.65%	180	39	90.70%	234	0	10	[illegible]
2003-03-20	851	439	439	181	177	72.96%	116	22	74.12%	126	11	93.22%	165	1	12	8
2003-03-21	861	375	375	150	145	84.50%	109	21	87.40%	111	23	94.48%	137	6	13	10
	863	303	303	139	136	85.47%	105	22	81.20%	95	22	94.85%	129	2	7	4
2003-03-24	873	434	434	181	159	66.45%	101	29	71.64%	96	47	86.39%	146	8	13	10
	874	535	535	254	241	84.54%	175	47	73.54%	139	65	88.38%	213	2	12	8
2003-03-25	884	338	338	107	104	63.83%	60	13	59.09%	52	19	81.73%	85	9	15	11
	885	214	217	89	82	83.10%	59	18	72.73%	45	23	90.24%	74	7	11	9
2003-03-26	889	552	551	219	213	90.06%	163	38	83.70%	154	35	93.90%	200	1	10	[illegible]
	890	481	481	211	206	90.80%	155	39	88.64%	156	37	95.15%	196	4	10	8
2003-03-27	897	88	88	25	24	95.24%	20	4	75.00%	18	1	95.83%	23	8	11	10
2003-03-28	903	314	314	130	123	88.12%	89	29	85.15%	86	29	91.06%	112	7	8	
	916	221	231	90	88	75.34%	55	17	86.30%	63	17	92.05%	81	7	11	9
2003-03-29	924	558	558	224	209	79.17%	133	56	86.19%	156	43	92.82%	194	2	10	6

SUMiMARY

INVALIDITY

Total # of containers	2613
Total # of valid containers	2515
Total # of code found CAM 1	1744
Total # of code found CAM 2	1744
Total # of code found PoM	2294

Total # of invalid containers C1	442
Total # of invalid containers C2	447
Total # of invalid containers	98
Invalidity rate C1	16.92%
Invalidity rate C2	17.11%
Global invalidity rate	3.75%

PoM	Mean Accuracy/all cont	87.79%
	Mean Accuracy/valid cont	91.21%
Cam 1	Mean Accuracy/all cont C1	66.74%
	Mean Accuracy/valid cont. C1	80.33%
Cam 2	Mean Accuracy/all cont C2	66.74%
	Mean Accuracy/valid cont C2	80.52%

Table 48 – Nighttime accuracy rate

DATE	MOVE	# IMAGES		# CONT.		CAMERA 1			CAMERA 2			PoM		SPEED (MPH)		
		C1	C2	Tot	Valid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Invalid	Perf. (%)	#Found	Min	Max	Average
2003-03-16	813	431	431	152	148	77.52%	100	23	82.84%	111	19	92.57%	137	2	11	9
2003-03-18	826	383	383	149	141	68.46%	89	19	78.40%	98	24	91.49%	129	2	12	10
2003-03-20	850	209	209	80	79	85.51%	59	11	84.72%	61	8	91.14%	72	5	11	8
2003-03-21	858	612	612	97	94	86.59%	71	15	70.00%	56	17	87.23%	82	2	10	8
2003-03-22	868	208	208	75	70	78.79%	52	9	79.37%	50	12	97.14%	68	7	12	8
2003-03-23	869	361	361	147	140	79.66%	94	29	71.90%	87	26	90.00%	126	1	6	5
2003-03-25	880	149	149	73	72	76.19%	48	10	89.23%	58	8	90.00%	63	5	8	6
2003-03-28	919	137	137	48	45	81.82%	27	15	76.74%	33	5	93.33%	42	8	10	9
2003-03-29	927	145	145	60	57	78.00%	39	10	91.84%	45	11	94.74%	54	7	10	8

SUMMARY

INVALIDITY

Total # of containers	881
Total # of valid containers	844
Total # of code found CAM 1	579
Total # of code found CAM 2	599
Total # of code found PoM	773

Total # of invalid containers C1	141
Total # of invalid containers C2	129
Total # of invalid containers	37
Invalidity rate C1	16.00%
Invalidity rate C2	14.64%
Global invalidity rate	4.20%

PoM	Mean Accuracy/all cont	87.74%
	Mean Accuracy/valid cont	91.59%
Cam 1	Mean Accuracy/all cont. C1	65.72%
	Mean Accuracy/valid cont. C1	78.24%
Cam 2	Mean Accuracy/all cont. C2	67.99%
	Mean Accuracy/valid cont. C2	79.65%

8.2.2 Accuracy – Target Speed Interval Between 10 and 20 mph

Table 49 presents the results obtained when trains travel within the speed determined in POM's acceptance criteria, namely 15 mph 5. Among the trains observed during the period, only 10 of 24 conformed to this speed criterion. Despite this, the accuracy obtained was similar to the rate obtained overall (69.1% vs. 70.7%).

Table 49 – Accuracy rate – speed move variation maximum of 4 mph

DATE	MOVE	# IMAGES C1	# IMAGES C2	# CONT Tot	# CONT Valid	CAMERA 1 Perf. (%)	CAMERA 1 #Found	CAMERA 1 Invalid	CAMERA 2 Perf. (%)	CAMERA 2 #Found	CAMERA 2 Invalid	PoM Perf. (%)	PoM #Found	SPEED (MPH) Min	SPEED (MPH) Max	SPEED (MPH) Average
2003-03-25	880	149	149	73	70	76,19%	48	10	89,23%	58	8	90,00%	63	5	8	6
2003-03-27	897	88	88	25	24	95,24%	20	4	75,00%	18	1	95,83%	23	9	11	10
2003-03-28	908	314	314	130	123	88,12%	89	29	85,15%	86	29	91,06%	112	7	9	7
2003-03-28	916	231	231	90	88	75,34%	55	17	86,30%	63	17	92,05%	81	7	11	8
2003-03-28	919	137	137	48	45	81,82%	27	15	76,74%	33	5	93,33%	42	8	10	9
2003-03-29	927	145	145	60	57	78,00%	39	10	91,84%	45	11	94,74%	54	7	10	8

SUMMARY

Total # of containers:	426
Total # of valid containers :	407
Total # of code found CAM 1:	278
Total # of code found CAM 2:	303
Total # of code found PoM:	375

INVALIDITY

Total # of invalid containers C1 :	85
Total # of invalid containers C2 :	71
Total # of invalid containers :	19
Invalidity rate C1 :	19,95%
Invalidity rate C2 :	16,67%
Global invalidity rate :	4,46%

PoM	Mean Accuracy/all cont.	88,03%
	Mean Accuracy/valid cont.	92,14%
Cam 1	Mean Accuracy/all cont. C1	65,26%
	Mean Accuracy/valid cont. C1	81.52%
Cam 2	Mean Accuracy/all cont. C2	71,13%
	Mean Accuracy/valid cont. C2	85,35%

DATE	MOVE	# IMAGES C1	# IMAGES C2	# CONT Tot	# CONT Valid	CAMERA 1 Perf. (%)	CAMERA 1 #Found	CAMERA 1 Invalid	CAMERA 2 Perf. (%)	CAMERA 2 #Found	CAMERA 2 Invalid	PoM Perf. (%)	PoM #Found	SPEED (MPH) Min	SPEED (MPH) Max	SPEED (MPH) Average
2003-03-16	813	431	431	152	148	77,52%	100	23	82,84%	111	18	92,57%	137	2	11	9
2003-03-17	819	223	223	79	78	78,79%	52	13	85,92%	61	8	92,31%	72	3	10	9
2003-03-18	826	383	383	149	141	68,46%	89	19	78,40%	98	24	91,49%	129	2	12	10
2003-03-18	828	382	382	155	153	79,07%	102	26	84,78%	117	17	86,93%	133	7	13	11
2003-03-19	841	287	287	112	109	82,61%	76	20	85,15%	86	11	91,74%	100	9	13	10
2003-03-19	842	614	614	265	258	74,26%	176	28	79,65%	180	39	90,70%	234	0	10	7
2003-03-20	850	209	209	80	79	85,51%	59	11	84,72%	61	8	91,14%	72	5	11	9
2003-03-20	851	439	439	181	177	72,96%	116	22	74,12%	126	11	93,22%	165	1	12	9
2003-03-21	858	612	612	97	94	86,59%	71	15	70,00%	56	17	87,23%	82	2	10	8
2003-03-21	861	375	375	150	145	84,50%	109	21	87,40%	111	23	94,48%	137	6	13	10
2003-03-21	863	303	303	139	136	85,47%	100	22	81,20%	95	22	94,85%	129	2	7	6
2003-03-22	868	208	206	75	70	78,79%	52	9	79,37%	50	12	97,14%	68	7	12	9
2003-03-23	869	361	361	147	140	79,66%	94	29	71,90%	87	26	90,00%	126	1	9	6
2003-03-24	873	434	434	181	169	66,45%	101	29	71,64%	96	47	86,39%	146	8	13	10
2003-03-24	874	535	535	254	241	84,54%	175	47	73,54%	139	65	88,38%	213	2	12	8
2003-03-25	884	338	338	107	104	63,83%	60	13	59,09%	52	19	81,73%	85	9	15	11
2003-03-25	885	214	217	89	82	83,10%	59	18	72,73%	48	23	90,24%	74	7	11	9
2003-03-26	889	552	551	219	213	90,06%	163	38	83,70%	154	35	93,90%	200	1	10	7
2003-03-26	890	481	481	213	206	90,80%	158	39	88,64%	156	37	95,15%	196	4	10	8
2003-03-29	924	558	558	224	209	79,17%	133	56	86,19%	156	43	92,82%	194	2	10	8

SUMMARY

Total # of containers:	3068
Total # of valid containers :	2952
Total # of code found CAM 1:	2045
Total # of code found CAM 2:	2040
Total # of code found PoM:	2692

INVALIDITY

Total # of invalid containers C1 :	498
Total # of invalid containers C2 :	505
Total # of invalid containers :	116
Invalidity rate C1 :	16.23%
Invalidity rate C2 :	16,46%
Global invalidity rate :	3,78%

PoM	Mean Accuracy/all cont.	87,74%
	Mean Accuracy/valid cont.	91,19%
Cam 1	Mean Accuracy/all cont. C1	66,66%
	Mean Accuracy/valid cont. C1	79,57%
Cam 2	Mean Accuracy/all cont. C2	66,49%
	Mean Accuracy/valid cont. C2	79,59%

9 RECOMMENDATIONS

9.1 OCR Sub-system Redesign

The objective of the redesign is to upgrade the current AEI/OCR prototype by improving the performance of the OCR sub-system. This calls for a redefinition of the internal interface between the AEI sub-system and the OCR sub-system, as well as an improvement of the video module by replacement with up-to-date computer technology.

Many possible design solutions could be proposed to improve the OCR sub-system and its video module. Some are far reaching in terms of overall system design revision, such as integrating illumination and sensor into a single unit. Others require compromises to be made, such as splitting up the image acquisition on two cameras per side to reduce space to a minimum, at the cost of increasing system complexity and maintenance burden. Within the framework of this report, the choice was made to limit system changes to a minimum, retaining the same basic single camera design.

9.2 Overall System Design

Figure 72 shows the schematic of the proposed AEI/OCR data flow. This new design eliminates the dependencies on redundant modules that were generating unwanted complexity and maintainability issues.

The OCR sub-system consists of two video modules and an OCR processing module. Each video module receives timing signals and speed information from the AEI sub-system and handles image acquisition on a particular side. Light beam signals are also acquired, processed and added to the images from within the video module. Each module produces a stream of regularly sampled images that are forwarded to the OCR processing module.

The OCR processing module is responsible for the analysis of the images and the production and transmission of the list of container IDs.

9.2.1 The Video Module

The video module consists of a digital line-scan camera with the proper lens, a target reference light and a computer equipped with a digital frame grabber and a data acquisition card to capture signals from the light beams.

One of the main tasks of the video module is to acquire constant images independent of instantaneous illumination changes. This is achieved through an AGC scheme that includes the use of a target reference within the field of view of the camera. Setting up an AGC requires real-time control over the camera lens component. Currently, the AEI/OCR prototype makes use of iris control on the objective to achieve this result. In the revised design we instead opt for direct control of the exposure time of the camera if this feature is supported on the camera. Direct control implies that the lighting system is able to provide enough light to have sharp images.

The other crucial task is to sample images regularly. The preferred strategy using a line-scan imager is to operate the camera at its fastest rate, assessing train speed from signals coming from the AEI sub-system and applying a slightly deferred decimation scheme.

The video module also has to acquire signals from the light beams and format them into a binary stream encoded within the images themselves. Retaining this encoding strategy is less effective than transferring the light beam signal analysis to the OCR processing module; however, this turns images into self-contained pieces of information, thus providing robustness and simplifying offline processing, two important advantages.

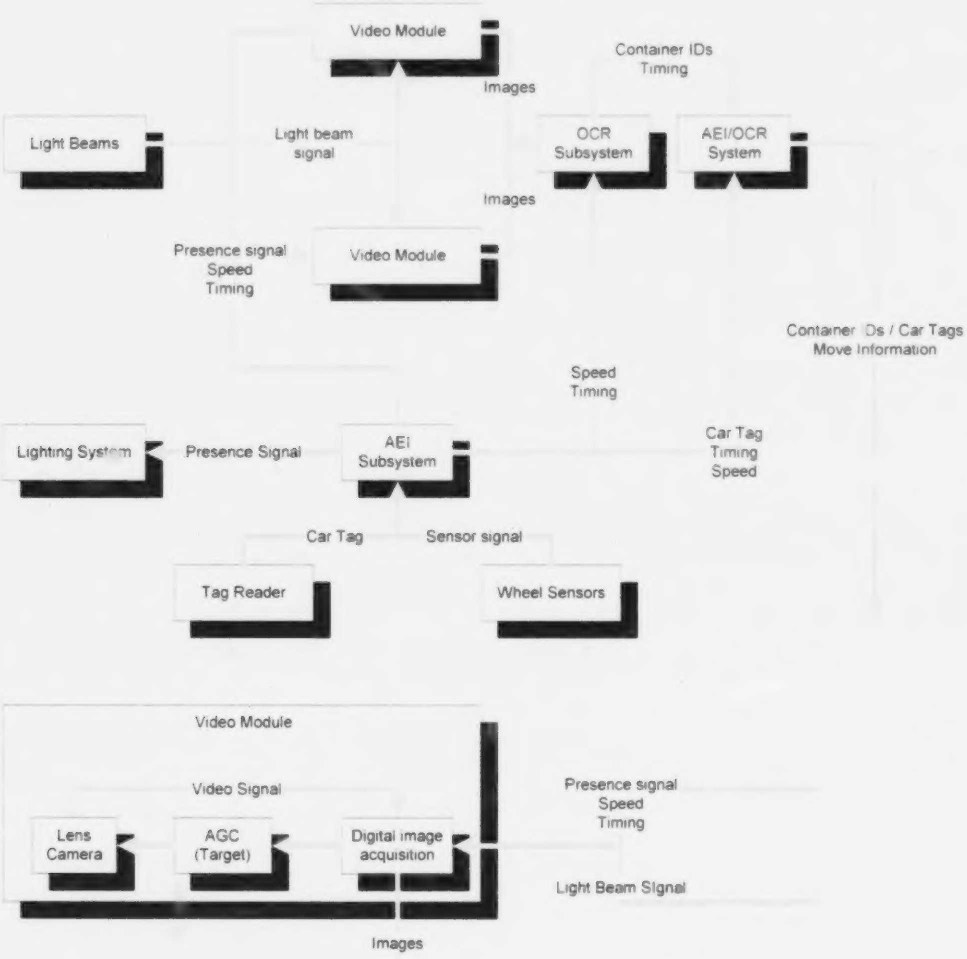

Video Module
Container IDs
Timing
Images
Light Beams
Light beam signal
OCR Subsystem
AEI/OCR System
Images
Presence signal
Speed
Timing
Video Module
Container IDs / Car Tags
Move Information
Speed
Timing
Lighting System
Presence Signal
AEI Subsystem
Car Tag
Timing
Speed
Car Tag
Sensor signal
Tag Reader
Wheel Sensors
Video Module
Video Signal
Presence signal
Speed
Timing
Lens Camera
AGC (Target)
Digital image acquisition
Light Beam Signal
Images

Figure 72 – Proposed data flow for AEI/OCR system

9.2.2 OCR Processing Module

The OCR processing module is a piece of software (OCRail) that would typically be split on two separate computers. These could be the very same computers that are part of the video modules if an appropriate and stable configuration can be achieved.

The OCR analysis itself is divided into four main steps. Image segmentation is the first and most time consuming one. The purpose of this step is to reduce images into a limited number of small formatted regions of interest. Since segmentation has to deal with images as they are produced by the video module, it will have to be adapted to increased resolution and better contrast.

The next two steps are optical character recognition and 1-side intelligent character recognition. These would not be affected by the proposed design changes.

The last step, 2-side intelligent character recognition, would not be affected for single-track systems where information on two sides is always considered available. For double track systems, this step would have to be adapted to conditions where information is available for either one or two sides, depending on circumstances.

9.3 Video Module Components

A key component of the video module is the cameras. To increase the system's effectiveness and exceed the 80% requirement per camera on a continual basis, it would be better to replace the existing cameras and lenses with digital colour cameras.

If the cameras are changed, however the LININT boards would need to be changed as well, and the LICO software would need to be modified to be compatible with the new equipment. In addition, the OCRail software would need to be adapted to analyse colour images.

9.3.1 Camera Model

The current camera used in the prototype is a Perkin-Elmer Reticon LC-3000. The actual model used is an analog line-scan camera featuring 1024 14-micron pixels. The maximum line rate produced by this camera is around 9 kHz. To illustrate possible state-of-the-art replacements for the LC-3000, Dalsa cameras were chosen.

Dalsa Inc. is a world-leading producer of high-end digital line-scan CCD cameras. This Canadian-based company offers a wide product line that includes various line-scan and raster CCD cameras, as well as CMOS-based products.

Table 50 shows the main characteristics of two Dalsa cameras. The Piranha2 is a fast grey-scale line-scan camera, while the Trillium is a colour line-scan camera. Each of these is digital and based on modern sensing technology (i.e., these cameras are roughly 5 times more sensitive than the current cameras in the prototype).

According to our speed constraint computations, either one of these cameras would be fast enough to accommodate a train speed of 100 km/h. It is clear, however, that the Piranha2 camera features far superior performance, yet produces grey-scale images.

Table 50 – Main characteristics of Dalsa CCD line-scan cameras

Product	Colour	Pixels		Line rate (kHz)	Interface	Cost ($CDN)
		#	Size (m)			
Piranha2	grey	4096	7	36	Camera Link	11 000
Trillium	colour	2048	14	11	RS-644 LVDS	11 500

9.3.2 Camera Lenses

A number of Nikkor brand (Nikon) lenses were considered fur use with a Piranha2 camera. For each of these lenses, the minimal stand-off (distance between the camera and the container surface) was computed to allow for a 20 ft. field of view. As can be seen in table 51, the lens gets more expensive as the distance is lessened.

The other important parameter is the f/# number, which is a measure of the lenses' light collecting power. The last three rows of Table 51 feature 28 mm lenses of increasing light collecting power. Here again, the cost of the lens is directly related to its collecting power. This illustrates the potential impact of camera sensitivity on overall system cost.

Hence, if reducing overall system footprint is the main concern, it would be possible to set up the video modules as close as 10 ft. from the container surface using commercial lenses. Any closer distance would likely require an optical design phase that would most certainly lead to an expensive lens.

Finally, note that none of these lenses have iris control, which means that they would have to be used in conjunction with a camera featuring real-time exposure control in the system.

Table 51 – Examples of Nikkor (Nikon) lenses

Product	Stand-off (feet)	Typical cost ($CDN)
AF Nikkor 14mm f/2.8D ED	9.8	2185
AF Nikkor 18mm f/2.8D	12.6	1775
AF Nikkor 20mm f/2.8D	14.0	805
AF Nikkor 24mm f/2.8D	16.8	540
AF Nikkor 28mm f/2.8D	19.6	345
Nikkor 28mm f/2	19.6	1150
AF Nikkor 28mm f/1.4D	19.6	2645

9.3.3 Frame Grabber

Since the Piranha2 camera is a fast 4-tap digital Camera Link camera, a convenient frame grabber is required to both control the camera and retrieve images. A well-known supplier of high-end frame grabbers is Matrox.

Matrox suggests the Meteor-II/Camera Link frame grabber to drive the Piranha2 camera. Using this frame grabber, one can operate the camera at maximum line acquisition rate at least until the internal buffer is filled. For a continuous operation such as envisioned for the AEI/OCR prototype, actual sustained line rate will depend on the frame grabber and computer.

9.3.4 Camera /Lighting Support Structure

The external equipment requires some adjustments to make the make the system more efficient and better adapted to the conditions observed. According to our observations, it would be better to change the cameras and posts, and to modify the target lights.

Camera Posts
The existing wood structure to which the camera housings are attached is a little unstable in high winds and driving rain or when passing trains generate vibrations. Ideally, the posts should be replaced with a metal or other type of structure that is more resistant to vibration and wind. The blowing wind catches the camera housing, which has an effect on the post.

Camera Housing
The camera housings should be remounted, taking the new structure of the posts into account.

Light Posts
The light posts that support the light pods are also a little unstable in bad weather. The current wood structure should be redesigned using a metal structure with several anchor points that do not interfere with the camera's image sensing.

Light Pods(Illumination Lights)
The new light pods installed on site have not caused any problems. However, the fasteners may need to be redesigned if they are not suitable for the new structure to be installed.

Camera Target Light
The target lights were often realigned in this phase of the project. Side 1 was realigned twice and side 2 was realigned four times in seven months. These adjustments were necessary because of the precision of the alignment required with the cameras. Winds and rain vibrations causes the target to move slightly to the left or right, or causes the cameras to move could result in incorrect images. A modification of the target lights should be considered to enlarge the lighted area that is required for good quality images. This way, the target lights can move slightly when there are vibrations and bad weather without causing a noticeable deterioration in the images. Figure 73 shows an example of a camera target light.

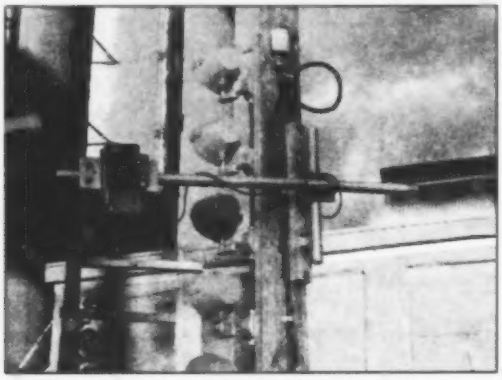


Figure 73 – Camera target light

In this phase of the project, a target light bulb was changed because it broke. We thus recommend that long-lasting bulbs that can handle the vibrations and bad weather be installed, thereby resulting in a minimum amount of intervention at the site. These types of bulbs are available from General Electric. The 130 V GE survivor XL 100 W bulbs last about 8,500 hours. They can be used on a 120 V circuit.

Light Beams

Weather conditions such as rain, snow and cold do not interfere with light beam operation. However, the new light beams installed at the site did cause a minor problem. They had to be realigned because the signal was not being received correctly. This problem was caused by the light beam fasteners, which should be redesigned for the new metal structures installed for the light pods.

9.4 Wheel Sensors

The wheel sensors should be replaced or upgraded with CCTC's new models, whose electric contacts have a more weathertight seal. In addition, signalling flags should be installed to indicate the location of the sensors when maintenance work is done on the railway. The sensor cables should be attached differently so as not to be visible from the outside. Figure 74 shows a sensor with visible cables.

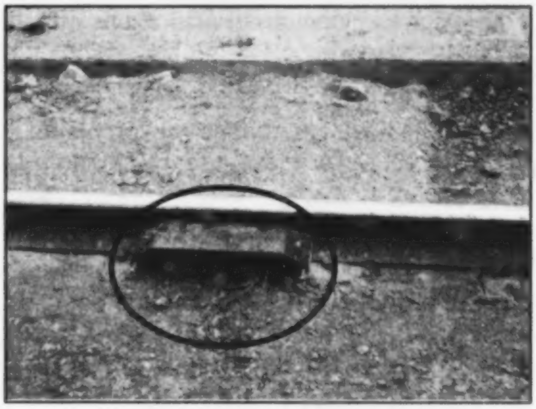


Figure 74 – Wheel sensor

9.5 Boot Leg

The boot leg was damaged by a blow from the mobile construction unit. The fragility of this boot leg means that it needs to be covered in a way that protects it better. The cover should be made of metal since this material can easily handle the weight of a vehicle.

Figure 75 is a photo showing the broken boot leg.

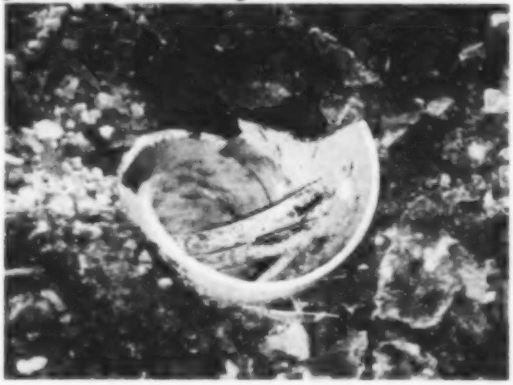


Figure 75 – Broken boot leg

9.6 Bungalow

The current bungalow is too small for the amount of equipment it contains. When equipment is connected or disconnected, it is very difficult to reach the connections and there is a risk of accidentally catching on other cables and causing problems. In bad weather, it is difficult for a person to enter to make adjustments and close the door to protect things from breaking.

A alternative solution to increasing the size of the bungalow would be to redesign the interior in a way to maximize the free space available inside, or to reduce the number of computers.

9.7 Cleaning External Equipment

The external equipment should be cleaned because of the dust and bad weather at the site. This cleaning should include the inside of the camera housings and the lenses.

9.8 Internal Infrastructure

9.8.1 Solid State Relay

The configuration of the solid state relays caused a few minor problems. The relays connected to the light pods appeared to cause problems because one of them had to be replaced due to a defect. It would thus be necessary to replace the light pod relays with 45A rather than the 40A that are currently in the solid state relay box.

Figure 76 show the relays to be replaced with 45A. Note that number 3 has already been replaced because of a defect.

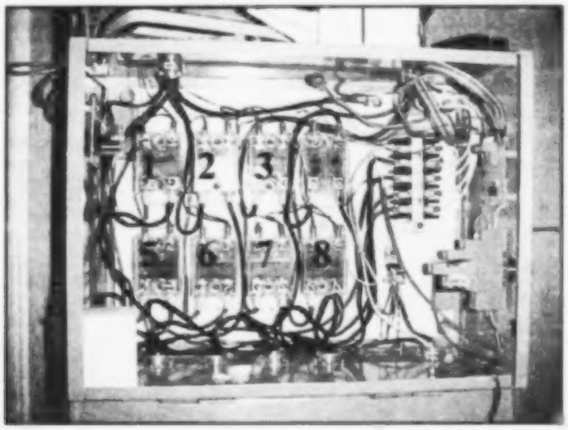


Figure 76 – Relays to change

9.8.2 Heating and Air Conditioning

The heating and air conditioning systems should be reorganized because there is a problem when both systems run at the same time. For instance, when the heat is on and the temperature gets too warm, the air conditioning goes on. The systems then enter a phase in which both of them are operating at the same time.

The solution would be to combine the two systems to avoid this kind of problem. A single control should be used to regulate the temperature inside the bungalow.

9.8.3 ATIB Card

The ATIB card supplied by CCTC and installed in the LICOs should be replaced to be compatible with a PCI slot since the ISA slots are becoming less common and it is very difficult to find motherboards with this kind of slot.

9.8.4 LININT Boards

Because the LININT boards have many connections, it would be better to install them in a case to avoid accidentally catching the wires or connections and causing problems with the image quality.

9.8.5 TC-64 Board

The TC-64 board should be put in a case to avoid damage when work is done in the bungalow. It should also be modified to improve the reaction speed for changes in train speed. The board should be tested to check that it works properly before being put into operation.

9.9 Computer Environment

If the black and white analog cameras are replaced with a digital camera, as recommended, the image transfer time will be much greater. The solution for this problem is to combine the LICO1/Corail1 and LICO2/Corail2 computers. Not transferring images over the network greatly reduces the processing time, thereby reducing network congestion. Only the ICR files should be transmitted over the network to the AEI computer. This network topology would reduce the number of computers in the bungalow and could also solve the space problem.

Combining the LICOs and the Corails on one computer should not slow down the process. Dual processor computers should be installed so as not to increase the processing time. Consequently, the two LICOs and the two Corails should be replaced to have only two computers instead of four. Figures 77 and 78 present the diagram for the new configuration.

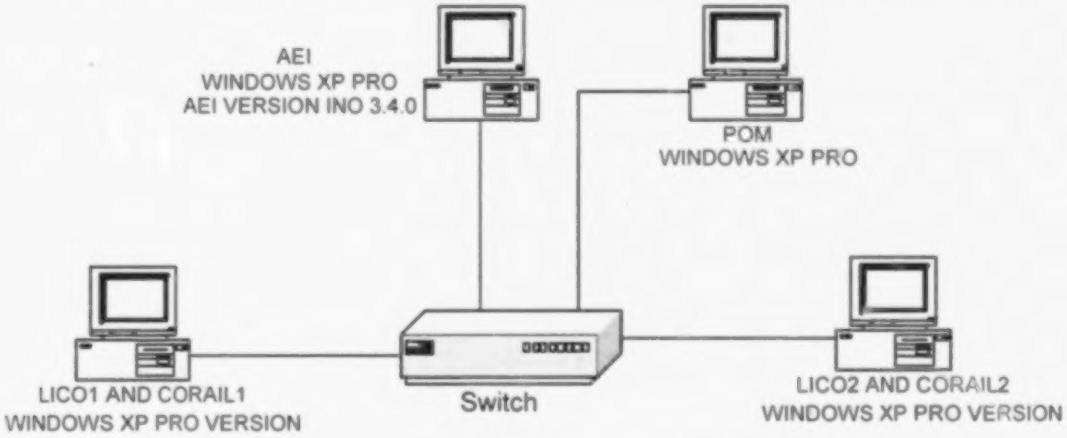

AEI
WINDOWS XP PRO
AEI VERSION INO 3.4.0
POM
WINDOWS XP PRO
LICO1 AND CORAIL1
WINDOWS XP PRO VERSION
Switch
LICO2 AND CORAIL2
WINDOWS XP PRO VERSION

Figure 77 – New network topology

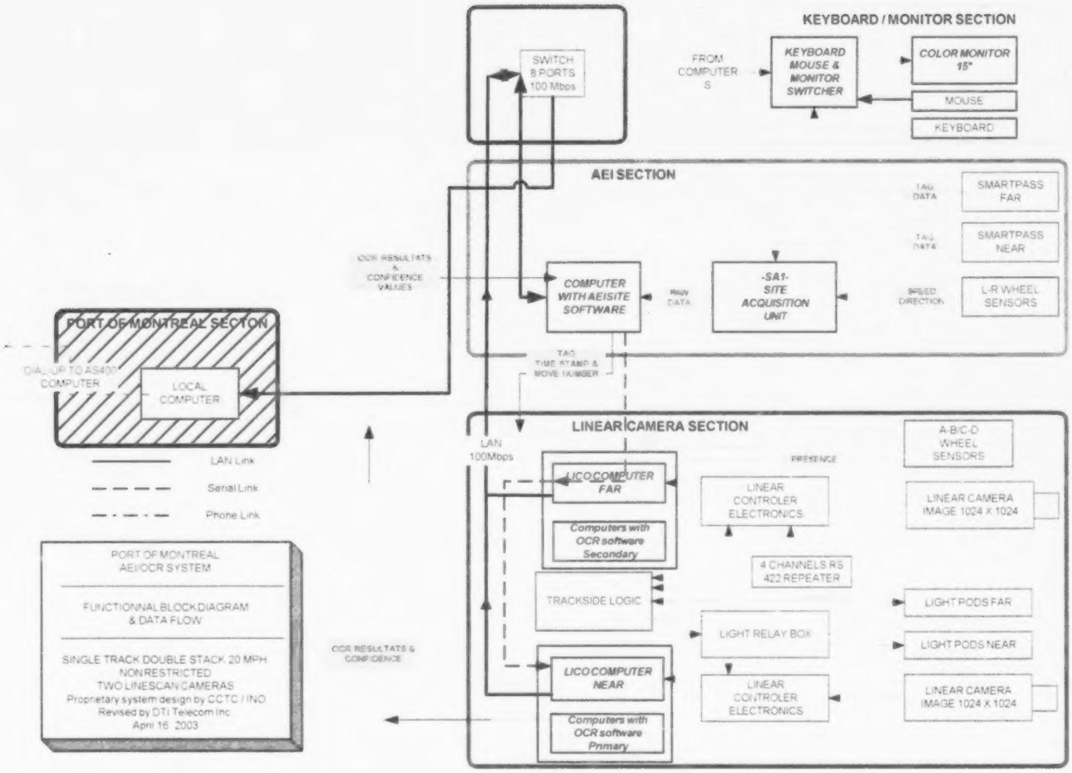

KEYBOARD / MONITOR SECTION
SWITCH 8 PORTS 100 Mbps
FROM COMPUTER S
KEYBOARD MOUSE & MONITOR SWITCHER
COLOR MONITOR 15"
MOUSE
KEYBOARD
AEI SECTION
TAG DATA
SMARTPASS FAR
TAG DATA
SMARTPASS NEAR
OCR RESULTATS & CONFIDENCE VALUES
COMPUTER WITH AEISITE SOFTWARE
RAW DATA
-SA1- SITE ACQUISITION UNIT
SPEED DIRECTION
L-R WHEEL SENSORS
PORT OF MONTREAL SECTON
DIAL UP TO AS400 COMPUTER
LOCAL COMPUTER
TAG TIME STAMP & MOVE NUMBER
LINEAR CAMERA SECTION
LAN 100Mbps
A-B/C-D WHEEL SENSORS
PRESENCE
LICO COMPUTER FAR
LINEAR CONTROLER ELECTRONICS
LINEAR CAMERA IMAGE 1024 X 1024
Computers with OCR software Secondary
4 CHANNELS RS 422 REPEATER
TRACKSIDE LOGIC
LIGHT PODS FAR
LIGHT RELAY BOX
LIGHT PODS NEAR
OCR RESULTATS & CONFIDENCE
LICO COMPUTER NEAR
LINEAR CONTROLER ELECTRONICS
LINEAR CAMERA IMAGE 1024 X 1024
Computers with OCR software Primary
LAN Link
Serial Link
Phone Link
PORT OF MONTREAL AEI/OCR SYSTEM
FUNCTIONNAL BLOCK DIAGRAM & DATA FLOW
SINGLE TRACK DOUBLE STACK 20 MPH
NONRESTRICTED
TWO LINESCAN CAMERAS
Proprietary system design by CCTC / INO
Revised by DTI Telecom Inc
April 16 2003

Figure 78 – System diagram

The ASUS A7M266-D motherboard is available for this kind of configuration. This board can support up to two Athlon processors and 3.5 GB of DDR SDRAM.

9.10 Software

These changes would also entail an improvement of the current AEI/OCR prototype by an upgrade of the LICO, AEI and Corail systems as well as improvements to the current OCR algorithm to OCR version 1.2 which has greater functionality. Combining the LICO and OCRAIL programs on the same platform and running the same operating system e.g. MS Windows XP would take advantage of the new computer technology with corresponding faster processors, more memory, etc.

9.10.1 LICO

Upgrade to Windows XP
Microsoft Windows XP is the current version available. At the end of 2004 or beginning of 2005, Microsoft will put the newest version of the operating system (Windows 2005) on the market.

Microsoft will only support the two latest versions of the operating system. Consequently, MS Windows 2000 Pro will be not supported after the launch of Windows 2005. DTI does not recommend putting a system in production that has an operating system without supplier support.

The AEI software is ready to run on MS Windows XP. Only minor changes need to be made to the LICO software to have it ready to run on XP as well.

Forty-five Minute Delay for False Detections
The AEI program delays transmitting the EDI file to POM for 45 minutes when it does not receive the ICR file from the OCRail software, which has not received any images from the LICOs because of false detection. This problem involves a parameter set to 45 minutes inside the AEI program; CCTC can decrease this parameter to 15 or 10 minutes.

This problem has not yet been solved. A code program modification is needed inside the AEI. This can easily be done in the next phase, in which the false detection process will be thoroughly analysed (LICO and AEI).

Frame Grabbing After Two Wheels
In a move, the frame grabbers should start grabbing after two wheels have passed, instead of these, as is currently the case. The modification itself is quite simple, but it will take time to test every situation to ensure that it will not generate extra problems or have any kind of negative impact on the light pods and light beams.

Lost Detection
A move that has two EoT signals can result in the loss of detection by the LICOs (although the AEI still has it), which can hinder analysis of the image. CCTC did not have any explanation for this event. This situation may be related to the wheel sensor problem. CCTC needs to improve the communication between the LICO and AEI programs.

9.10.2 AEI

Axle Field Is 1
The summary provided by the AEI software is not the same as the detail section. In the summary, the value in the Axle field is '1', but in the Detail field it is '0'. This not really a problem as it is a false indication. CCTC needs to make a correction inside the AEI code program to correct this, after which tests will be conducted.

Windows XP
The AEI computer is fast enough to handle the Microsoft Windows XP operating system, and the AEI software was designed to be compatible with this operating system. Consequently, the AEI computer does not need to be upgraded with respect to hardware or software compatibility. DTI needs to test all the functionalities of the AEI software on Windows XP.

Train Stop
When a train stops, the speed cannot be zero because to have this value, a wheel must stop on a sensor. This problem was evaluated to try to find a solution.

It appeared that the train stop did not have any impact on the result except for the generation of a false indication. The train never stopped on the rail or near the area of the sensors. It was only proven once that the program had sent the wrong information to the camera, which continued to grab the same lines consequently, the LICO continued to build the received/incoming images using the same lines for many minutes.

According to CCTC, this situation is very difficult to resolve, and a solution may be very expensive to implement efficiently. Occurrence of this problem was very rare (it happened once).

To solve this problem, new hardware parts that detect the speed of the incoming train could be added. This solution is not based on the detection of the wheels, but it has a major impact on the software and the equipment parts related to that functionality.

9.10.3 Corail

Upgrade
The OCRail software should be upgraded because some code identification problems were observed. Many codes were entered incorrectly for no reason.

INO is still working on the new generation of the OCR kernel (i.e., version 1.2). In this phase, the decision was made to keep version 1.1 of the OCR program. Version 1.2 is ready, has more functionalities – it is more rugged and code improvements have been made – and might be more powerful and more accurate.

Version 1.1 has caused no problem to date. We recommend continuing to build on the old version without using the kernel parts of the newest version.

Windows XP
Corail is now running on Microsoft Windows 2000 Pro but it is ready to run on Microsoft Windows XP. DTI has performed some preliminary tests with XP.

Another solution could be to put LICO and OCRail software on the same computer. Both applications would then be working under the same operating system.

OCRail Application
A failure of the OCR application caused image analysis problems. It was noted that the OCRail program had stopped on computers Corail1 and Corail2. There was no indication of the origin of the shutdown in the OCRail's log file, which contains system diagnostics and trace logs. The computers were still on, and no electrical power loss had been reported.

DTI asked INO to investigate and determine the cause of the OCR program shutdown problem, which seemed intermittent. INO and DTI tried to reproduce the shutdown of the OCRail program, but to no avail. INO tried a "burn test" on some moves, but the laboratoery tests were not able to explain the shutdown.

The source of the error did not seem to be the software, and the problem itself occurs too randomly to permit the finding of the cause. It could be a conflict between software and hardware, or a problem with the hardware components of the computer. INO modified the OCRail program to increase the number of entries in the log file in order to identify where the problem occurs.

The error occurred once or twice each week, and a manual intervention was required to restart the program. The error does not affect the accuracy of the program or the results in any way, but it does cause some delays in the data transfer time to POM.

An interim solution was found in installing a "watchdog" over the execution of the program.

In the future more extensive field tests should be done to determine the problem in order to ensure that this application works properly.

9.11 Cleaning of Interior Equipment

The interior of the bungalow and the equipment in it should be cleaned because of the dust and sand at the site.

10 CONCLUSIONS / DISCUSSION

This R&D project was undertaken to help the Port of Montreal improve the efficiency and productivity of container movement through the Port. A thorough analysis of the AEI/OCR system hardware and software configurations was carried out to arrive at the optimal image transfer. Hardware and software modifications were introduced that resulted in improvements to system efficiency, accuracy, and stability. The AEI/OCR system tested at the Port has achieved an overall accuracy of 92 percent and exceeded the specified accuracy and processing time criteria.

The acceptance tests were successful and yielded a container code recognition accuracy of 91.76 percent for 12 train moves the first week and 90.80 percent for 14 train moves the second week. The overall result for the period was 91.31 percent accuracy for the 3,359 valid containers and 87 percent overall accuracy for all 3,494 containers. The results obtained during the acceptance tests clearly showed that the acceptance criteria were met and exceeded, without taking the train length or speed criteria into account. Containers trains were observed at speeds ranging from 0 to 15 mph and with lengths varying between 1,309 and 9,821 ft. The code recognition accuracy did not depend on the length or speed of the train, but rather on the sharpness, clarity and definition of the images.

The network's data transfer performance and the OCR processing of the container ID numbers was achieved in near real time. The processing and electronic transfer time to send the results to a server required less than three minutes afeter the end of a train, welll under the 20-minute maximum processing time for all information gathered from a 6,000-ft. train, each car of which is loaded with two 40-ft. and two 20-ft. containers.

The test demonstrated that the system was able to achieve the performance and reliability required in an operational environment. A key finding was the importane of proper system and hardware integration. OCR processing time and network performance was markedly improved through the use of more powerful computers that allow the results to be sent to the host computer within 3 minutes of the end-of-train (EoT) and reduce the overall network transfer time to 10 to 15 minutes.

Using faster computers and/or combining the LICO and OCR software programs on the same computer can also decrease the processing time and data transfer period. The computer processors available are now twice as fast as the one currently in use. The computer memory and memory bus; the computer disk I/O bus; and the hard drive are also faster. Also, IDE disk technology can be replaced by a SCSI disk with an Ultra SCSI card. The OCR processing time of the container ID numbers will easily take les than 3 minutes after the EoT with the computer technologies now available on the market. New computer technologies can be procured, but if the current one is not setup (hardware) and configured (software) properly, the full potential of hardware is very unlikely to be reached.

The research and development phase for the AEI/OCR system demonstrated that it is possible in all cases to reach, and in most situations to greatly exceed, the acceptance criteria. The system is now ready to be incorporated into a real operating environment. The AEI/OCR system can be incorporated in an overall freight tracking system involving e-manifest and e-seals on containers or installed independently.

Implementing this system in a more restricted environment or in a location having multiple train tracks would require examining the use of a colour camera with higher definition. It is also possible to reduce the distance betweeh the train and the camera by using one camera of the top ontainers and a second camera for the bottom containers.

With this kind of camera, it would be possible to increase the effectiveness of character recognition by adding colour parameters to improve the identification of letters and numbers. The colour of the ISO code is different from the colour of the container (usually, the letters and numbers are black and their square background is white). The colour camera would enhance the colour spectrum differentiation of the ISO code by identifying the colour of the ISO code instead of determining the ISO code using greyscale.

The existing analog camera employs a LININT board, which is considered old technology. According to the type of camera used, the LININT board must be modified to adapt it to the new camera parameters. Another possibility would be to have the camera controlled directly by the software instead of undergoing the LININT board process: hence, incorporating the control directly into the LICO design to interface with the digital camera. An engineering study should be done to recommend the best alternative based on the chosen camera.

This alternative is not inexpensive because some parts of the hardware (e.g., LININT board) are hardware dependant, and the LICO and OCRail codes that were written in accordance with the capabilities of the current cameras will have to be rewritten. However costly, these substitutions will dramatically improve the accuracy rates. Changing both monochrome cameras to a single colour camera – and modifying the software accordingly for the OCR and AEI systems and redesigning the LININT board – would give the same, if not better, results. If a single colour camera is able to achieve the accuracy 80 percent requirement, the AEI/OCR system can be installed on a double track without any problem. The current result with two analog cameras is 90 percent, we can assume that the accuracy with two digital colour cameras could attain 95 percent recognition accuracy.

The variation in speed caused some problems with the image sensing. It was noted that when the variation between the minimum and maximum speed was less than 5 mph, maximum efficiency results were obtained from the OCR software. Work still needs to be done on the AEI system to allow for real-time decision making with respect to image acquisition and the composition of a less stretched or compressed image when a train speeds up or slows down.

Minor issues such as the alarms, the watch dog or the extra-life time lights should be considered for a new installation. These issues would make it possible to provide an operating environment that requires less maintenance and regular monitoring.

With the improvements made over the last year and the conclusive results observed over the last few months, the AEI/OCR system is now ready for an implementation project. Depending on the site chosen, some modifications will be required to adapt to the physical constraints of the new location.

The AEI/OCR system tested at Port of Montreal has met the specified accuracy and processing time criteria. The test demonstrated that the system was able to achieve the performance and reliability required of an operational environment.

APPENDIX A

GE Survivor^{TM} XL Bulbs

[illegible] The GE name assures you'll get the quality, durability and reliability you expect.

[illegible] even under many "rough service" conditions. Survivor XL bulbs have extra filament supports to protect the bulb against early burn-outs caused by bumps, jars and vibration. This tougher design makes them suitable for many rough service applications.

[illegible] three to four times longer than standard bulbs.[*] XL means Xtra Life and Survivor XL's stronger, single coil filament increases lamp life, reducing inconvenience and hazard of burned out bulbs.

[illegible] 8,500 hours on 120V circuit.[†] For even longer life, 130-volt Survivor XL bulbs can be used on 120-volt circuits to provide an average life of 8,500 hours. That's more than two years of service at 10 hours per day, one year of continuous operation.[†]

[illegible] assures easy lamp removal.

[illegible] Survivor XL is an economically priced alternative to provide the best all-around service in commercial and industrial applications.

---

[*] All long life incandescent bulbs trade light output for extra life. Survivor XL bulbs provide a 300% to 400% increase in life with 88% to 75% of the light of ordinary bulbs.

[†] Operated in this manner, the 130-volt Survivor XL consumes only 88% of its rated watts and provides 75% of its rated light output.

GE Lighting

GE Survivor XL Bulbs

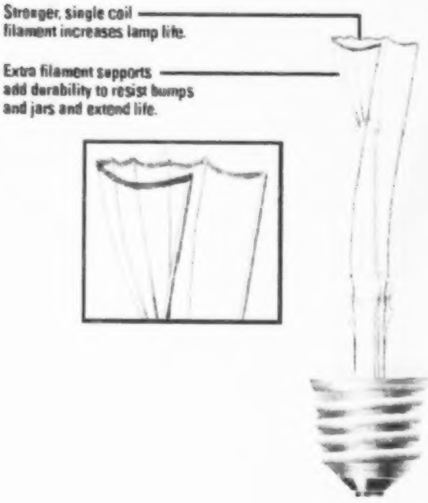
Performance Data

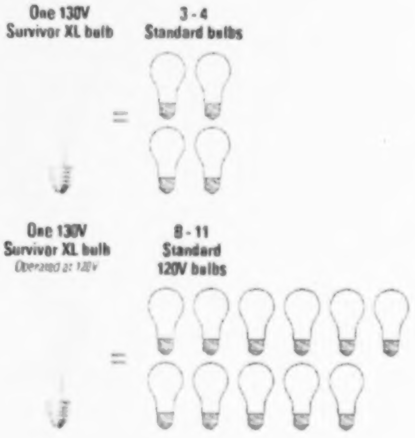
	WATTS	PRODUCT CODE	ORDERING CODE	VOLTS	BULB SIZE	FILAMENT DESIGN	BASE SIZE	BASE TYPE	AVG. LIFE (HRS) RATED @120V		APPROX. LUMENS RATED @120V		STD PKG QTY
120-volt	60	40324	60A/S	120	A-19	C-9	Medium	Brass	3.000	—	625	—	24
	75	40326	75A/S	120	A-19	C-9	Medium	Brass	3.000	—	815	—	24
	100	40329	100A/S	120	A-19	C-9	Medium	Brass	3.000	—	1190	—	24
	150	15817	150A/S	120	A-21	C-9	Medium	Brass	3.000	—	1925	—	60
130-volt	40	40323	40A/S	130	A-19	C-9	Medium	Brass	3.000	8.500	370	273	24
	60	40325	60A/S	130	A-19	C-9	Medium	Brass	3.000	8.500	625	462	24
	75	40328	75A/S	130	A-19	C-9	Medium	Brass	3.000	8.500	815	604	24
	100	40330	100A/S	130	A-19	C-9	Medium	Brass	3.000	8.500	1190	941	24
	150	15818	150A/S	130	A-21	C-9	Medium	Brass	3.000	8.500	1925	1443	60

Packaging Summary

	CASE				PALLET		
LAMP TYPE	LAMP QTY	DIMENSIONS	CUBE	WEIGHT	CASES PER LAYER	LAYERS PER PALLET	LAMPS PER PALLET
40-100-Watt	24	16" x 8" x 5"	.345'	2.0 lbs.	15	8	2880
150-Watt	60	16.9" x 14" x 11.8"	1.61'	7.0 lbs.	9	4	2160

Built Stronger to Last Longer


Stronger, single coil filament increases lamp life.
Extra filament supports add durability to resist bumps and jars and extend life.


One 130V Survivor XL bulb
3 - 4 Standard bulbs
=
One 130V Survivor XL bulb
Operated at 120V
8 - 11 Standard 120V bulbs
=

GE Lighting

For complete product information, visit the G.E. Lighting City of Light Web site at www.ge.com/lighting/business.

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APPENDIX B
OCRAIL 1.1

OCRail 1.1

A Container ID Recognition Engine

System Redesign

INO 01-7537SR RFI N/A

SUBMITTED TO

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Glossary

AEI	Automated Equipment Identification
CPU	Central Processing unit
EOF	End of File
ID	Identifier
ISO	International Standards Organization
LICO	Linear camera controllers
GB	Giga Bytes
HDD	Hard Disk Drive
MB	Mega Bytes
Move	A move can be assimilated to the passage of a train. A move number is a sequential number attributed by the hybrid AEI/LICO system to any given move. A move number can take any value between 0 and 999.
OCR	Optical Character Recognition
OCRail	Optical Character Recognition applied to ISO code recognition on train containers.
OS	Operating system
Timestamp	Time values assigned to a specific event in time. In this application, timestamps are used to mark the precise instants of image capture start and finish times.
RAM	Random-access memory
PC	Personal Computer

1 INTRODUCTION

The aim of the AEI/OCR system delivered to the Port of Montreal is to carry on-the-fly reading of both the AEI tags present on the railcars and the ID code painted on the containers. The system was designed back in 1997-98, since then huge technological developments occurred in the field of imaging sensors and cameras, making it relevant to review the video aspects of the system.

Experience with setting up to work the prototype and operating it also showed that making the main sub-systems of the prototype less interdependent would lead to simplified calibration and maintenance.

This report is a preliminary discussion for the redesign of the OCR sub-system including a brief component study. A rough estimate of the required manpower and consumables to perform the redesign is also provided.

1.1 Current system design

1.1.1 Physical implantation

Figure 1 gives a schematic view of side 1 of the physical implantation of the AEI/OCR system. The prototype features a number of sensors disseminated outside, along the track side. Among them are wheel sensors (axle detectors) in charge of detecting the presence of a train and perform speed assessment.

The post farthest to the track holds the camera and its housing. The camera is of the line scan type, with a field of view covering 20', such that a double-stack of containers falls entirely within the vertical field of view.

The post nearest to the track bears a standard AEI antenna (SmartPass), and different types of lighting. The later include two main lighting stages (top and bottom) which are responsible for the uniform illumination over the surface of the containers and a calibration target used to control the gain of the camera. It also includes two light beam sensors whose purpose is to detect container presence on the top or the bottom stack.

The prototype also features a bungalow that shelters the computers and required electronics.

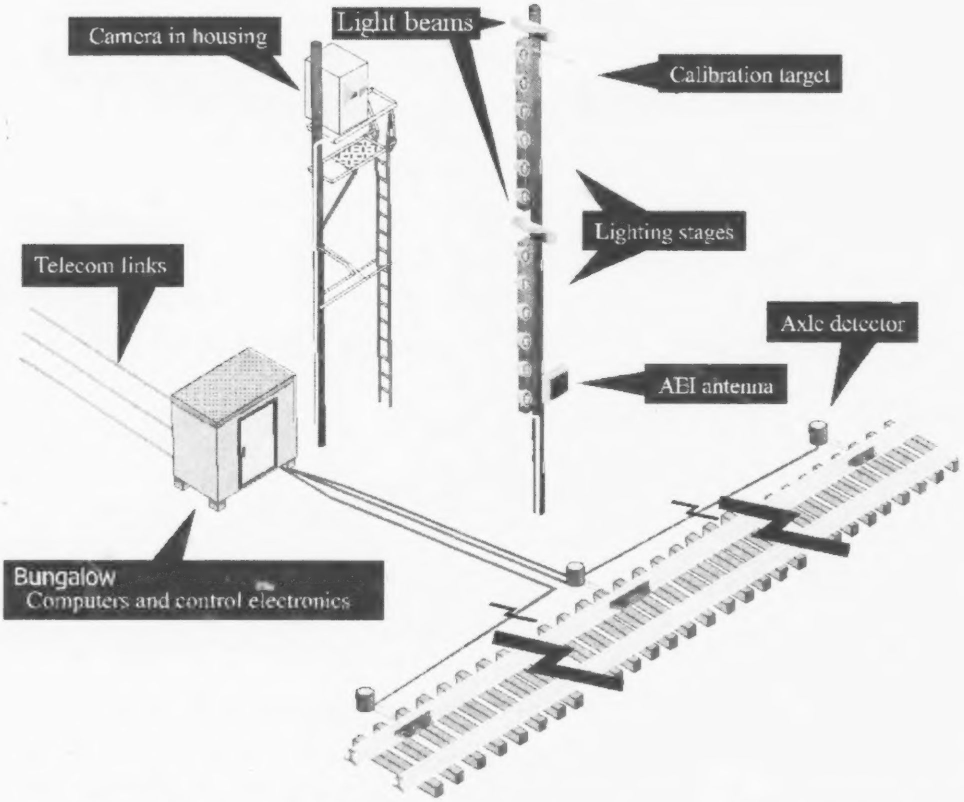
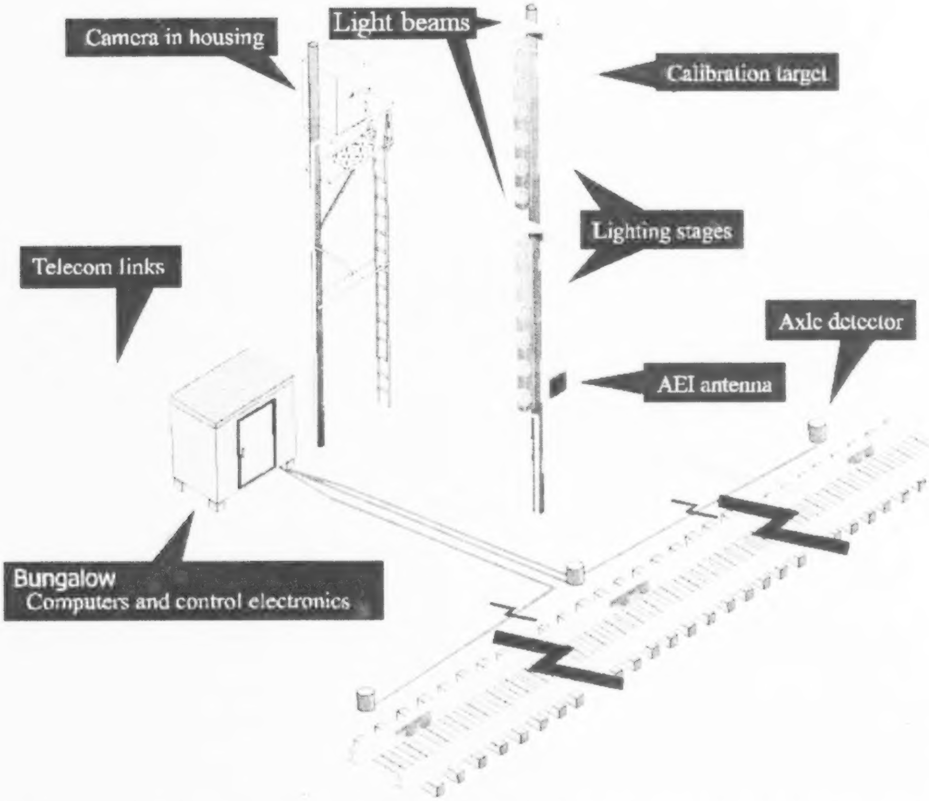


Figure 1: **Site schematics for side 1 of the prototype, and its relation to the track.**

1.1.2 Logical implantation

Fundamentally, the system consists of three independent sub-systems referred to as the linear camera (LICO), OCR and AEI respectively.
The LICO sub-system handles train detection, image acquisition and file generation (IMG format). Since linear cameras are used, images are formed in line scan fashion. A two dimensional reconstruction of the train is thus achieved by juxtaposition of several line frames. Consequently, the whole length of the train can be considered to be a single image although its physical representation is divided into smaller, more manageable blocks for convenience.
The video module of the LICO sub-system acquires images by sampling the cameras at the maximum rate and sub-sampling the video signal according to the train speed. Speed is obtained from the AEI sub-system. Light beam signals and train related information is encoded into the image header. The image is written on a designated hard disk drive. The automated gain control strategy is achieved by monitoring the intensity of the target reference light within the images. This intensity is compared to a pre-set reference level to control a motorized iris within the objective of the camera.
The images produced are processed by the OCR sub-systems (one for each camera) which produce a preliminary container code that will be retrieved and merged with the one found on the other side of the container. The resulting code and the relevant train information are then written into a file that will be read by the AEI sub-system.



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The AEI sub-system is responsible among other things of reading the AEI tags attached to railcars. In addition, it provides timing and speed signals for the linear camera section. Finally, once the OCR processing is complete, the AEI section is also responsible for the integration of the AEI information with the OCR information. The result of this integration is an EDI-based file that gets transmitted to the Port.

1.1.3 System specifications

Train speed

Train speed is assessed from wheel sensors. The train is going at from 0 mph to 20 mph.

Processing time

Output produced in 20 min.

Recognition accuracy

Overall accuracy of at least 80% on container codes.

1.2 Design contraints

This section briefly describes the two main design constraints that were considered in writing this report.

1.2.1 Train speed

In order to be versatile, the system should accommodate for train speeds up to 60 mph (100km/h), assuming that the wheel could reliably measure that speed.
This requirement on speed leads to a requirement on camera line scan rate. In fact, the minimum line rate of the camera is the train speed divided by pixel size. The computation was achieved for 1024, 2048 and 4096-pixel cameras and shown in Table.

Table 1: Required camera line rate as a function of the number of pixels.

Pixels	Pixel size on container (mm)	Required line rate (kHz)
1024	6	4.6
2048	3	9.2
4096	1.5	18.5

1.2.2 Space limitation

The system total encumbrance is of consequence. The actual prototype spans some 20' each side of the track. Reducing the overall space requirement to about 10' each side would potentially lead to a simpler system design as both illumination and the cameras could be mounted on a single post.
The stand-off constraint for the camera is thus expressed as any distance up to 20'.

1.3 Scope of the report

Many possible design solutions could be proposed to improve the OCR sub-system and its video module. Some are far reaching in terms of overall system design revision, such as integrating illumination with sensor into a single unit. Other require compromises to be made, such as splitting-up the acquisition on two cameras per side to reduce space to a minimum, at the cost of increasing system complexity and maintenance burden.
Within this report, the choice was made to limit system changes to a minimum, retaining the same basic single camera design.

2 OCR SUB-SYSTEM REDESIGN

2.1 Objective

The objective of the redesign is to upgrade the current AEI/OCR prototype by improving the performance of the OCR sub-system. This aim calls for a redefinition of the internal interface between the AEI sub-system and the OCR sub-system, as well as an improvement of the video module by replacement with up-to-date technology.

2.2 Overall system design

Figure shows the schematic of the proposed AEI/OCR data flow. This new design would eliminate the dependencies on redundant modules that were generating unwanted complexity and maintainability issues.
The OCR sub-system would be made of two video modules and an OCR processing module. Each video module would receive timing signals and speed information from the AEI sub-system and handle image acquisition on a particular side. Light beams signals would also be acquired, processed and added to the images from within the video module. Each module would produce a stream of regularly sampled images that would be forwarded to the OCR processing module.
The OCR processing module would be responsible for the analysis of the images and the production and transmission of the list of container IDs.

2.2.1 The video module

A video module would be made of a digital line scan camera with the proper objective lens, a target reference light and a computer equipped with a digital frame grabber and a data acquisition card to capture signal from the light beams.
One of the main task of the video module is to acquire constant images independent of instantaneous illumination changes. This is achieved through an automated gain control (AGC) scheme that includes the use of a target reference within the field of view of the camera. Setting up an AGC requires real-time control over the camera-objective component. Currently, the AEI/OCR prototype makes use of iris control on the objective to achieve this result. In a revised design we would instead opt for direct control on the exposure time of the camera if this feature is supported on the camera. Direct control implies that the lighting system is able to provide enough light in order to have sharp images.

The other crucial task is to regularly sample images. The preferred strategy using a line scan imager is to operate the camera at its fastest rate, assessing train speed from signal coming from the AEI sub-system and applying a slightly deferred decimation scheme.
The video module finally has to acquire and format signals from the light beams into a binary stream encoded within the images themselves. Retaining this encoding strategy is less effective than transferring the light beam signal analysis to the OCR processing module. However, this turns images into self-contained pieces of information, thus providing robustness and simplifying offline processing, two important advantages.

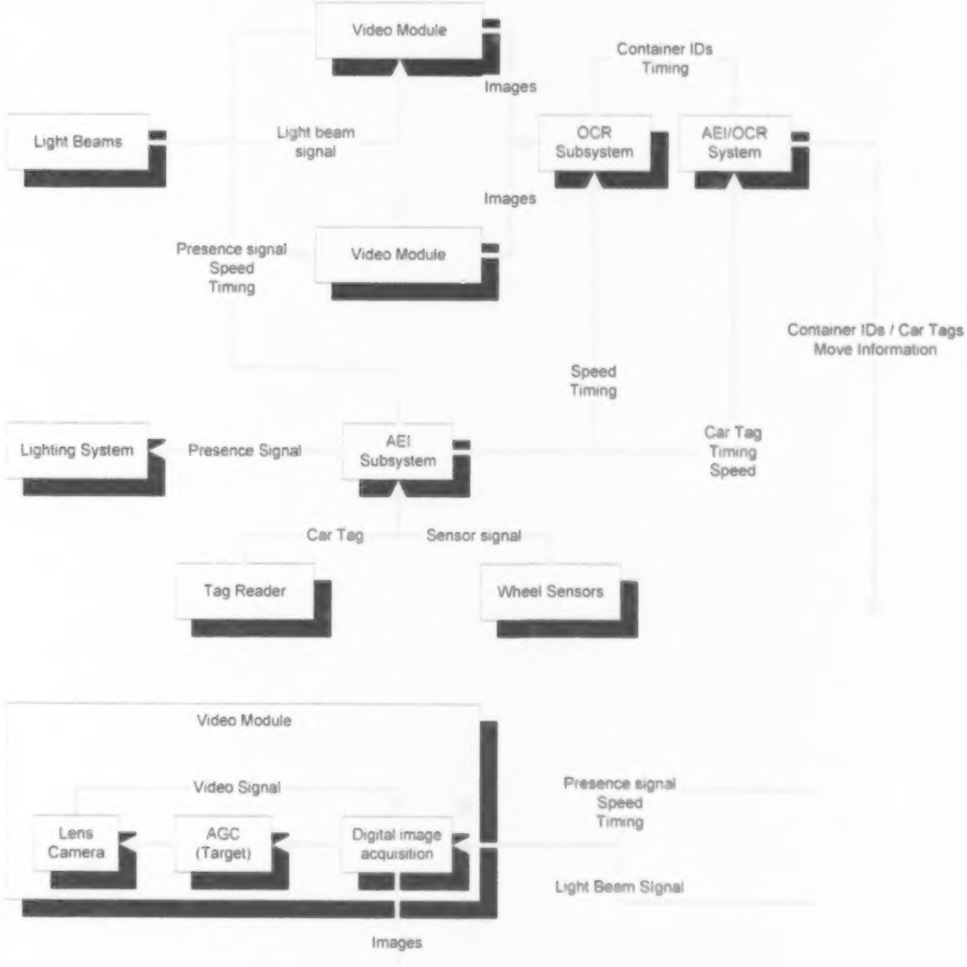

Video Module
Container IDs
Timing
Images
Light Beams
Light beam signal
OCR Subsystem
AEI/OCR System
Images
Presence signal
Speed
Timing
Video Module
Container IDs / Car Tags
Move Information
Speed
Timing
Lighting System
Presence Signal
AEI Subsystem
Car Tag
Timing
Speed
Car Tag
Sensor signal
Tag Reader
Wheel Sensors
Video Module
Video Signal
Lens Camera
AGC (Target)
Digital image acquisition
Presence signal
Speed
Timing
Light Beam Signal
Images

Figure 2 : **Proposed data flow for the AEI/OCR system.**

2.2.2 The OCR processing module

The OCR processing module is basically a piece of software (OCRail) that would typically be split on two separate computers. These could be the very same computers that are part of the video modules if an appropriate and stable configuration can be achieved.

The OCR analysis itself is divided into four main steps. image segmentation is the first and most time consuming one. The purpose of this step is to reduce images into a limited number of small formatted regions of interest. Since segmentation has to deal with images as they are produced by the video module, it will have to be adapted to increased resolution and better contrast.

The next two steps are optical character recognition and 1-side intelligent character recognition. These would not be affected by the proposed design changes.

The last step, 2-sides intelligent character recognition would not be affected for single track systems where information on two sides is always considered available. For double track systems, this step would have to be adapted to conditions where information is available for either one or two sides depending on circumstances.

2.3 Video module components

2.3.1 Camera

The current camera used within the prototype is a Perkin-Elmer Reticon LC-3000. The actual model used is an analog line scan camera featuring 1024 14-micron pixels. The maximum line rate produced by this camera is around 9 kHz. To illustrate possible state-of-the-art replacements for the LC-3000, Dalsa cameras were chosen.

Dalsa Inc. is a world leading producer of high-end digital line scan CCD cameras. This Canadian-based company offers a wide product line including various line scan and raster CCD cameras, as well as CMOS based products.

Table shows the main characteristics of two Dalsa cameras. The Piranha2 is a fast grey scale line scan camera, while the Trillium is a colour line scan camera. Each of these are digital and based on modern sensing technology, i.e. one can consider that these cameras are roughly 5 times more sensitive than the current cameras of the prototype.

According to our speed constraints computations, either one of these cameras would be fast enough to accommodate a train speed of 100 km/h. It is clear however that the Piranha2 camera features far superior performance, yet producing greyscale images.

Table 2: Examples of Dalsa CCD line scan cameras main characteristics.

Product	Colour	Pixels		Line rate (kHz)	Interface	Cost ($CDN)
		#	Size (m)			
Piranha2	grey	4096	7	36	Camera Link	11 000
Trillium	colour	2048	14	11	RS-644 LVDS	11 500

2.3.2 Objective

Considering the use of a Piranha2 camera, we took a short look at possible objectives among the Nikkor brand (

Table). For each of these objectives, the minimal stand off (distance between camera and the container surface) was computed to allow for a 20' field of view. As can be seen, the objectives are getting more expensive as the distance is lessened.

The other important parameter is the f/# number, which is a measure of light collecting power of the objective. The last threes entries of

Table feature 28mm objectives of increasing collecting power. Here again, objective cost is directly related to the collecting power of the objective. This illustrates the potential impact of camera sensitivity on overall system cost.
Hence, if reducing overall system encumbrance is the main concern, it would be possible to set-up the video modules as close as 10' from the container surface using commercial objectives. Any closer distance would likely require an optical design phase that would most certainly lead to an expensive (> 3000 $CDN) objective.
Finally, note that none of these objectives have iris control, which means that they would have to be used in conjunction with a camera featuring real-time exposure control in the system.

Table 3: Examples of Nikkor (Nikon) objectives.

Product	Stand off (feet)	Typical cost ($CDN)
AF Nikkor 14mm f/2.8D ED	9.8	2185
AF Nikkor 18mm f/2.8D	12.6	1775
AF Nikkor 20mm f/2.8D	14.0	805
AF Nikkor 24mm f/2.8D	16.8	540
AF Nikkor 28mm f/2.8D	19.6	345
Nikkor 28mm f/2	19.6	1150
AF Nikkor 28mm f/1.4D	19.6	2645

2.3.3 Frame grabber

Since the Piranha2 camera is a fast 4-tap digital Camera Link camera, a convenient frame grabber is required both to control the camera and retrieve images. A natural supplier of high-end frame grabbers is Matrox.
Matrox proposes the Meteor-II/Camera Link frame grabber to drive the Piranha2 camera. Using this frame grabber, one can operate the camera at maximum line acquisition rate at least until internal buffer is filled. For a continuous operation such as envisioned for the AEI/OCR prototype, actual sustained line rate will depend on the frame grabber and computer.
A frame grabber such as the Meteor-II/Camera Link costs around 3,000$CDN.

2.4 OCR sub-system redesign project

This is a rough order of magnitude estimate for a project that would consist in implementing the proposed OCR sub-system redesign.
Note:

> **This is a preliminary price range estimate (Rough Order of Magnitude – ROM), provided solely at the potential client's demand and does not legally bind INO.**

2.4.1 Tasks

In order to perform the proposed OCR sub-system redesign, the following series of tasks would be required:

- System design
- Software programming
- Physical integration
- Unit tests
- Field tests
- Management and reporting

2.4.2 Estimated cost

The total project cost would be around 150 k$

Manpower	105 k$
Consumables	45 k$

2.4.3 Estimated schedule

9-12 months.

2.4.4 Technical Risks

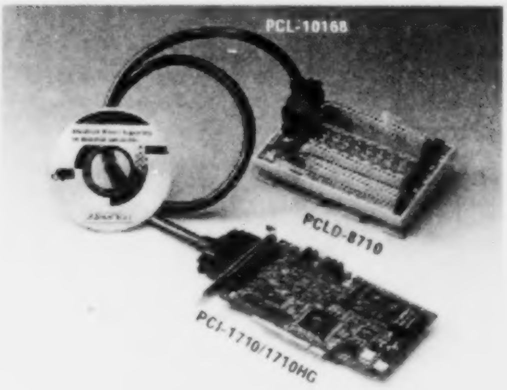
The main technical risk is the availability of an AEI/OCR prototype and accessibility to the system. Then most probably the distance between the cameras and the surface of the containers would be different from the current one, implying changes in the post layout of the system. This aspect is outside of the current estimate.
Another requirement to insure success of the redesign is the involvement of a partner that would adapt the AEI sub-system in parallel with the new OCR sub-system. The natural partner for this type of work is Tyco.

APPENDIX C

PCI-1710 / DaqBoard/2000™ Series / PCI Watchdog Timers for Windows NT

PCI-1710/1710L
PCI-1710HG/HGL

12-bit, 100 kHz, (High-gain), PCI-bus Multi-function DAS Card



Features

- 16 single-ended or 8 differential analog inputs, or a combination
- 12-bit A/D converter, with up to 100 kHz sampling rate
- Programmable gain for each input channel
- Free combination of single-ended and differential inputs
- On-board 4 K samples FIFO buffer
- Two 12-bit analog output channels
- 16 digital inputs and 16 digital outputs
- Programmable pacer/counter

Introduction

The PCI-1710/1710HG is a multifunction DAS card for the PCI bus. Its advanced circuit design provides higher quality and more functions, including the five most desired measurement and control functions: 12-bit A/D conversion, D/A conversion, digital input, digital output, and counter/timer.

PCI-1710 series provide specific functions for different user requirements:

PCI-1710	100 kS/s, 12-bit Multifunction Card
PCI-1710L	100 kS/s, 12-bit Multifunction Card w/o AO
PCI-1710HG	100 kS/s, 12-bit High-Gain Multifunction Card
PCI-1710HGL	100 kS/s, 12-bit High-Gain Multifunction Card w/o AO

Mixed Single-ended or Differential Analog Inputs

The PCI-1710/1710HG features an automatic channel/gain scanning circuit. The circuit, rather than your software, controls multiplexer switching during sampling. The on-board SRAM stores different gain values and configurations for each channel. This design lets you perform multi-channel high-speed sampling (up to 100 kHz) with different gains for each channel and with free combination of single-ended and differential inputs.

On-board FIFO (First In First Out) Memory

The PCI-1710/1710HG has an on-board FIFO buffer which can store up to 4K A/D samples. The PCI-1710/1710HG generates an interrupt when the FIFO is half full. This feature provides continuous high-speed data transfer and more predictable performance on Windows systems.

On-board Programmable Counter

The PCI-1710/1710HG provides a programmable counter for generating a pacer trigger for the A/D conversion. The counter chip is an 82C54 or equivalent, which includes three 16-bit counters on a 10 MHz clock. One counter is used as an event counter for counting events coming from the input channels. The other two are cascaded together to make a 32-bit timer for a pacer trigger.

Special Shielded Cable for Noise Reduction

The PCL-10168 shielded cable is specially designed for the PCI-1710/1710HG for reducing noise in the analog signal lines. Its wires are all twisted pairs, and the analog lines and digital lines are seperately shielded, providing minimal cross talk between signals and the best protection against EMI/EMC problems.

Specifications

Analog Input:

- **Channels:** 16 single-ended or 8 differential (software programmable)
- **Resolution:** 12-bit
- **On-board FIFO:** 4 K samples
- **Conversion time:** 8 μs
- **Input range:** (V, software programmable)

	PCI-1710/1710L	PCI-1710HG/1710HGL
Bipolar	±10, ±5, ±2.5, ±1.25, ± 0.625	±10, ±5, ±1, ±0.5, ±0.1, ±0.05 ±0.01, ±0.005
Unipolar	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	0 ~ 10, 0 ~ 1, 0 ~ 0.1 0 ~ 0.01

- **Maximum Input Overvoltage:** ±30 V
- **Common Mode Rejection Ratio (CMRR):**

PCI-1710/1710L		PCI-1710HG/1710HGL	
Gain	**CMRR**	**Gain**	**CMRR**
0.5, 1	75dB	0.5, 1	75dB
2	80dB	10	90dB
4	84dB	100	106dB
8	84dB	1000	106dB

12-bit, 100 kHz, (High-gain), PCI-bus Multi-function DAS Card

- **Maximum sampling rate:** [illegible] depending on PGA settling time

	Gain	Max. Sampling Rate
PCI-1710/1710L	0.5, 1, 2, 4, 8	100 kS/s
PCI-1710HG/1710HGL	0.5, 1	100 kS/s
	5, 10	35 kS/s
	50, 100	7 kS/s
	500, 1000	770 kS/s

Note: The sampling rate depends on the computer hardware architecture and software environment. The rates may vary due to programming language, code efficiency, CPU utilization and so on.

- **Accuracy:** (Depends on gain)

PCI-1710		PCI-1710HG		
Gain	**Accuracy**	**Gain**	**Accuracy**	**Remark**
0.5, 1	0.01% of FSR ±1 LSB	0.5, 1	0.01% of FSR ±1 LSB	S.E./E
2	0.02% of FSR ±1 LSB	5, 10	0.02% of FSR ±1 LSB	S.E./E
4	0.02% of FSR ±1 LSB	50, 100	0.04% of FSR ±1 LSB	D
8	0.04% of FSR ±1 LSB	500, 1000	0.08% of FSR ±1 LSB	D

* ***S.E.: Single-ended   D: Differential***

- **Linearity error:** ±1 LSB
- **Input impedance:** 1 GΩ
- **Trigger mode:** Software, on-board programmable pacer or external

Analog Output: (PCI-1710/1710HG only)

- **Channels:** 2
- **Resolution:** 12-bit
- **Relative accuracy:** ±1/2 LSB
- **Gain error:** ±1 LSB
- **Throughput:** 38 kS/s (min.)
- **Slew rate:** 10 V/µs
- **Output range (software programmable):**
  Internal reference: 0 ~ +5 V @ -5 V
  0 ~ +10 V @ -10 V
  External reference: 0 ~ +x V @ -x V (-10 ≤ x ≤ 10)
- **Driving Capability:** 10 mA

Digital Input:

- **Channels:** 16
- **Input voltage:** Low: 0.4 V max.
  High: 2.4 V min.
- **Input load:** Low: -0.2 mA @ 0.4 V
  High: 20 mA @ 2.7 V

Digital Output:

- **Channels:** 16
- **Output voltage:** Low: 0.4 V max. @ 8.0 mA (sink)
  High: 2.4 V min. @ -0.4 mA (source)

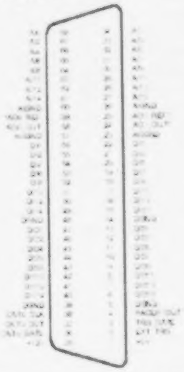
Programmable Timer/Counter

- **Counter chip:** 8254 or equivalent
- **Counters:** 3 channels, 16 bits, 2 channels are permanently configured as a 32-bit programmable pacer; 1 channel is free for user applications
- **Input, gate:** TTL/CMOS compatible
- **Time base:**
  Channel 1: 10 MHz
  Channel 2: Takes input from output of channel 1
  Channel 0: Internal 1 MHz or external clock
  (10 MHz max.) selected by software

General:

- **CE certified to CISPR 22 class B**
- **I/O Connector:** 68-pin SCSI-II female connector
- **Power consumption:** +5 V @ 850 mA (Typical)
  +5 V @ 1.0 A (Max.)
- **Operating temperature:** 0 ~ +60° C (32 ~ 140° F) (refer to IEC 68-2-1, 2)
- **Storage temperature:** -20 ~ +70° C (-4 ~ 158° F)
- **Operating humidity:** 5% ~ 95% RH non-condensing (refer to IEC 68-2-3)
- **Dimensions:** 175 mm (L) x 100 mm (H) (6.9" x 3.9")
- **MTBF:** over 64,770 hrs @ 25° C, grounded-fix environment

Pin Assignments



* Pins 21~25 and pins 55~59 are not defined for PCI-1710L/1710HGL.

Ordering information

☐ **PCI-1710**: 12-bit, 100 kS/s Multifunction Card, user's manual and driver CD-ROM (cable not included)

☐ **PCI-1710L**: 12-bit, 100 kS/s Multifunction Card w/o AO, user's manual and driver CD-ROM (cable not included)

☐ **PCI-1710HG**: 12-bit, 100 kS/s High-Gain Multifunction Card, user's manual and driver CD-ROM (cable not included)

☐ **PCI-1710HGL**: 12-bit, 100 kS/s High-Gain Multifunction Card w/o AO, user's manual and driver CD-ROM (cable not included)

☐ **PCLD-8710:** Industrial Wiring Terminal Board with CJC circuit for DIN-rail mounting (cable not included)

☐ **PCL-10168:** 68-pin SCSI-II cable with male connectors on both ends and special shielding for noise reduction, 1 and 2 m

☐ **ADAM-3968:** 68-pin SCSI-II Wiring Terminal Board for DIN-Rail Mounting

Note: PCI-1710L and PCI-1710HGL are available soon!

DaqBoard/2000™ Series

16-Bit, 200-kHz PCI & CompactPCI® Data Acquisition Boards

NEW

Features

- Six PCI (DaqBoard/2000) and six CompactPCI® (DaqBoard/2000c) versions available
- 16-bit, 200-kHz A/D converter
- 8 differential or 16 single-ended analog inputs (software selectable per channel)
- Expandable up to 256 analog input channels, while maintaining 200 kHz (5 µs per channel) scan rate
- Up to four boards can be installed into one PC for up to 1024 analog input channels
- 100% digital calibration
- 512 location channel/gain FIFO, capable of scanning all channels, including 256 analog expansion channels and digital/counter channels, at 5 µs per channel
- DMA bus mastering for synchronous analog I/O, digital I/O, and counter inputs
- Trigger modes include analog, digital, & software, with <5 µs latency
- Virtually infinite pre-trigger buffer*
- Up to four 16-bit, 100-kHz analog outputs with infinite continuous waveform output capability*
- 40 digital I/O lines, can be scanned synchronously or asynchronously with analog inputs
- Digital I/O is expandable up to 272 lines, including optional isolation and relay closure
- Four counter/pulse input channels can be scanned synchronously or asynchronously with analog inputs
- Two timer/pulse output channels

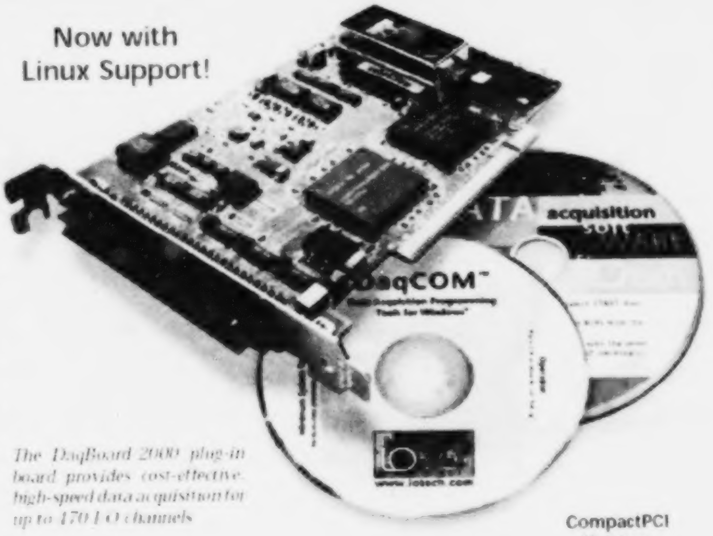
Signal Conditioning Options

- Signal conditioning & expansion options for thermocouples, strain gages, accelerometers, isolation, RTDs, etc.—over 30 options in all (see p. 143)

Software (see p. 125)

- Included DaqX API library, drivers for Visual Basic®, C++, and Delphi™ for Windows® 95 and higher; C++ for Linux, DASYLab®, TestPoint®, & LabVIEW®
- Optional DaqView2000™ software package
- Optional DaqCOM™ ActiveX/COM-based applications program interface, including network capability

Now with Linux Support!



The DaqBoard/2000 plug-in board provides cost-effective, high-speed data acquisition for up to 170 I/O channels

CompactPCI Versions Now Available!

The new DaqBoard/2000™ series sets the price/performance benchmark for high-speed, multi-function plug-and-play data acquisition for PCI bus computers. The DaqBoard/2000 series hardware design offers all of the features normally found on significantly more expensive boards, including 16-bit, 200-kHz A/D, 100% digital calibration, bus mastering, two or four 16-bit, 100-kHz D/A converters, 40 digital I/O lines, four counters and two timers.

DaqBoard/2000 series is supported by a growing family of over 30 signal conditioning and expansion options, offering signal conditioning for thermocouples, RTDs, accelerometers, isolation, high-voltage, strain gages, and much more. Up to 528 channels of analog and digital I/O can be accessed using one DaqBoard/2000, while maintaining the 5 µs per channel update rate. Up to four DaqBoard/2000s can be installed into one PC.

Software support is the most extensive of any board, including comprehensive drivers and new ActiveX/COM-based programming tools for nearly every programming environment under Windows® 95 and higher. Included in this list are Visual Basic®, C++, Delphi™, TestPoint®, LabVIEW®, and DASYLab®, and C++ for Linux. Also available is a suite of DaqView™ software options for *Out-of-the-Box*™ setup, acquisition, display, and analysis of acquired data—no programming required. DaqView2000™ combines DaqView, DaqViewXL™, and eZ-PostView™ in one software package for use with the DaqBoard/2000 series.

In total, the DaqBoard/2000 series sets the industry standard for plug-and-play PCI data acquisition. To view or download a comparison chart on a particular board, visit www.iotech.com/DaqBoard2000.

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* Limited only by available PC RAM and hard disk space

DaqBoard/2000™ Series

General Information

DaqBoard/2000™ Series Selection Chart

Feature	Multi-Function I/O				Digital I/O	Analog Output
	/2001 & /2001c	/2000 & /2000c	/2005 & /2005c	/2004 & /2004c	/2002 & /2002c	/2003 & /2003c
Analog inputs (16 bit/200 kHz)	16	16	16	—	—	—
Analog outputs (16 bit/100 kHz)	4	2	—	4	—	4
Digital I/O	40	40	40	40	40	—
Freq./pulse I/O	6	6	6	6	6	—

Synchronous I/O for High-Speed Applications

The DaqBoard/2000™ series sets a new standard with its ability to make analog measurements, read digital inputs, and read counter inputs, while synchronously generating up to four analog outputs and/or a 16-bit digital pattern output. Most other boards require CPU interaction to access I/O other than analog input, making it impossible to generate time-critical analog waveforms or digital patterns. With the new DaqBoard/2000 series, the true power of today's PCI-based PCs can be unleashed.

The same synchronous features of the DaqBoard extend to its family of DBK signal conditioning and expansion options. Up to 256 analog input channels and 272 (256, P2 only) digital I/O channels can also be accessed synchronously to one another, with precise and deterministic channel-to-channel timing. Up to four DaqBoards can be installed in one PC, quadrupling the channel capacity to over 1000 analog input channels, 1000 digital I/O channels and 16 high-speed analog output channels.

Signal I/O

One 100-pin connector on the DaqBoard/2000 series provides access to all of the input and output signals. Unlike other multifunction boards that require multiple PC slots in order to access all of the I/O, careful design of the DaqBoard/2000 series accommodates all I/O using one cable, and utilizing a single PCI slot.

The 100-pin DaqBoard/2000 series I/O connector, **P4**, is logically divided into three sub-ports, P1, P2, and P3. **P1**, the analog input port, contains all of the analog input channels, as well as the sequencer control signals for accessing external analog input options. All analog expansion options attach to the P1 port. **P2**, the general purpose digital I/O port, can be used directly to control and monitor 24 digital I/O lines. P2 can also function as the digital I/O expansion port, whereby the 24 lines are exclusively used to control external digital DBK expansion options, for up to 256 lines of digital input or output. **P3** contains an additional 16-bit digital I/O port, as well as the counter inputs, timer outputs, and analog outputs. Several options are available to provide easy user access to all of the I/O signals on P4.

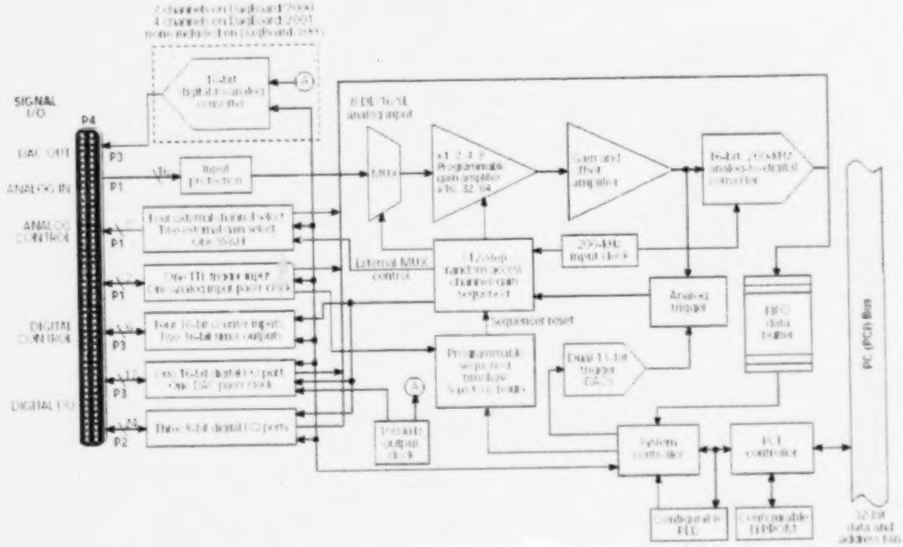
Analog Input (P1)

The DaqBoard/2000 series has a 16-bit, 200-kHz A/D coupled with 16 single-ended, or 8 differential analog inputs. Thirteen software programmable ranges provide inputs from ±10V to ±156 mV full scale. Each channel can be software-configured for a different range, as well as for single-ended or differential, and unipolar or bipolar input. Beyond the 16 built-in analog inputs, the user can expand the DaqBoard/2000 series up to 256 analog inputs using external DBK signal conditioning and expansion options (see p. 143). As with the on-board channels, expansion channels are scanned at the same 5 µs/channel rate (200 kHz), and most are software-programmable for range. There is *no* speed penalty for scanning expansion channels versus built-in channels. The DBK expansion options offer a wide variety of signal measurements, including thermocouples, RTDs, strain gages, accelerometers, high voltage, isolation, current, and much more.

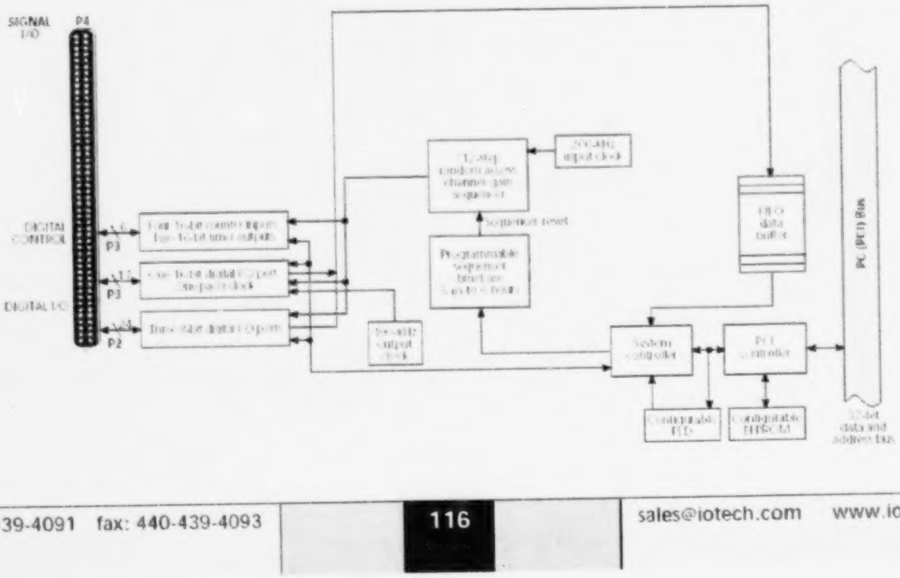
DaqBoard/2000™ Series

General Information

DaqBoard/2000, /2001, and /2005 Block Diagram


2 channels on DaqBoard/2000
4 channels on DaqBoard/2001
none included on DaqBoard/2005
16-bit digital-to-analog converter
A
SIGNAL I/O
P4
DAC OUT
P3
ANALOG IN
P1
ANALOG CONTROL
P1
DIGITAL CONTROL
P1
P3
DIGITAL I/O
P3
P2
16
24
Input protection
Four external channel select
Two external gain select
One SS&H
One TTL trigger input
One analog input pacer clock
Four 16-bit counter inputs
Two 16-bit timer outputs
One 16-bit digital I/O port
One DAC pacer clock
Three 8-bit digital I/O ports
100-kHz output clock
8 DE/16 SE analog input
MUX
x1, 2, 4, 8 Programmable gain amplifier x16, 32, 64
Gain and offset amplifier
16-bit, 200-kHz analog-to-digital converter
External MUX control
512-step random access channel-gain sequencer
200-kHz input clock
Sequencer reset
Programmable sequencer timebase 5 µs to 6 hours
Analog trigger
Dual 12-bit trigger DACs
FIFO data buffer
System controller
PCI controller
Configurable PLD
Configurable EEPROM
PC (PCI) Bus
32-bit data and address bus

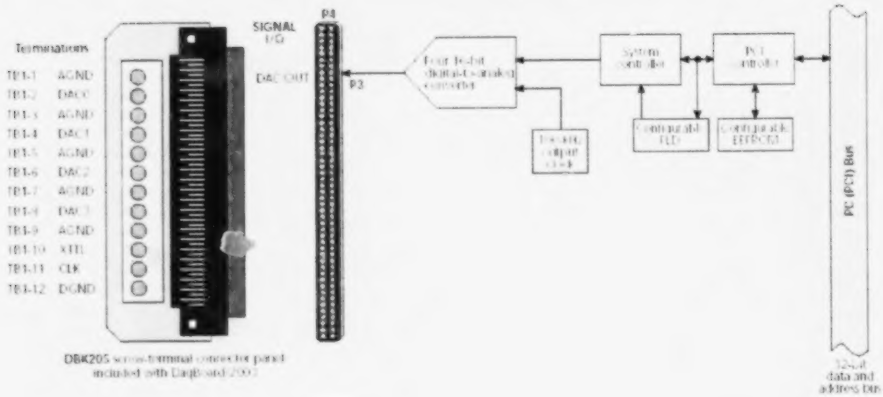
DaqBoard/2002 Block Diagram


SIGNAL I/O
P4
DIGITAL CONTROL
P3
DIGITAL I/O
P3
P2
16
24
Four 16-bit counter inputs
Two 16-bit timer outputs
One 16-bit digital I/O port
One pacer clock
Three 8-bit digital I/O ports
100-kHz output clock
512-step random access channel-gain sequencer
200-kHz input clock
Sequencer reset
Programmable sequencer timebase 5 µs to 6 hours
FIFO data buffer
System controller
PCI controller
Configurable PLD
Configurable EEPROM
PC (PCI) Bus
32-bit data and address bus

DaqBoard/2000™ Series

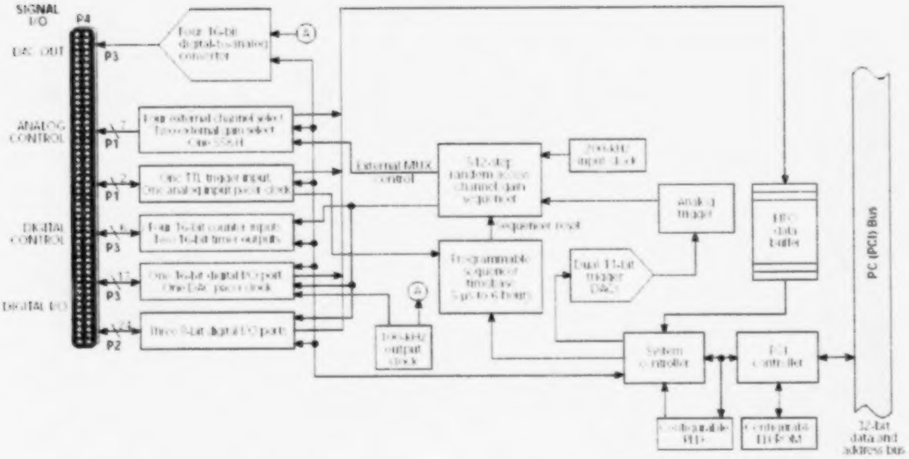
General Information

DaqBoard/2003 Block Diagram


Terminations
TB1-1 AGND
TB1-2 DAC0
TB1-3 AGND
TB1-4 DAC1
TB1-5 AGND
TB1-6 DAC2
TB1-7 AGND
TB1-8 DAC3
TB1-9 AGND
TB1-10 XTTL
TB1-11 CLK
TB1-12 DGND
SIGNAL I/O
P4
DAC OUT
P3
Four 16-bit digital-to-analog converter
System controller
PCI controller
100-kHz output clock
Configurable PLD
Configurable EEPROM
PC (PCI) Bus
32-bit data and address bus

DBK205 screw-terminal connector panel included with DaqBoard/2003

DaqBoard/2004 Block Diagram


SIGNAL I/O
P4
DAC OUT
P3
ANALOG CONTROL
P1
DIGITAL CONTROL
P3
DIGITAL I/O
P2
Four 16-bit digital-to-analog converter
A
7
Four external channel select
Two external gain select
One SSH
2
One TTL trigger input
One analog input pacer clock
6
Four 16-bit counter inputs
Two 16-bit timer outputs
17
One 16-bit digital I/O port
One DAC pacer clock
24
Three 8-bit digital I/O ports
External MUX control
512-step random access channel/gain sequencer
200-kHz input clock
Sequencer reset
Programmable sequencer timebase 5 µs to 6 hours
100-kHz output clock
A
Analog trigger
Dual 12-bit trigger DACs
FIFO data buffer
System controller
PCI controller
Configurable PLD
Configurable EEPROM
PC (PCI) Bus
32-bit data and address bus

IOtech

DaqBoard/2000™ Series

General Information

Scanning

The DaqBoard/2000 series has an on-board scan sequencer that permits the user to select any combination of up to 512 channel/range combinations. The sequencer scans all channels contained in the sequence at the fastest rate of 5 µs/channel, thereby minimizing the time-skew from channel-to-channel. The user can also set the time between scan groups, from 0 to 6 hours. In addition to scanning analog inputs, the sequencer can scan digital inputs and counter inputs (see p. 120).

Bus Mastering DMA

The DaqBoard/2000 series supports Bus Mastering DMA, which allows analog and digital/counter input data, as well as analog and digital output data to flow between the PC and the DaqBoard/2000 series without consuming valuable CPU time. The driver supplied with the DaqBoard/2000, as well as all other third-party software support such as TestPoint®, LabVIEW®, and DASYLab®, automatically utilize Bus Mastering DMA to efficiently conduct I/O from the PC to the DaqBoard.

Triggering

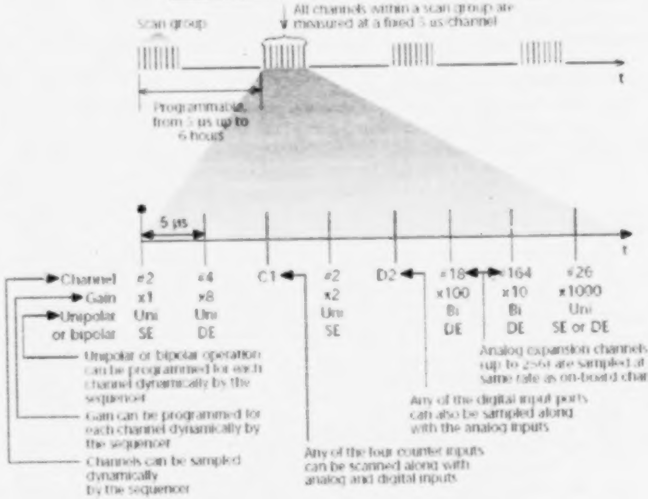
Triggering can be the most critical aspect of a data acquisition application. The DaqBoard/2000 series supports a full complement of trigger modes to accommodate any measurement situation.

Hardware Analog Triggering. Many data acquisition boards claim analog triggering, but rely on the PC to take readings and make a decision, which leads to uncertain and potentially long latencies. The DaqBoard/2000 series uses true analog triggering, whereby the trigger level programmed by the user sets an analog DAC, which is then compared in hardware to the analog input level on the selected channel. The result is analog trigger latency which is guaranteed to be less than 5 µs, significantly shorter than most data acquisition boards. Any analog channel can be selected as the trigger channel, including built-in or expansion channels. The user can program both the trigger level, as well as the edge (rising or falling).

Channel-Scanning Flexibility

The DaqBoard/2000 series offers a 512-location scan sequencer that allows you to select each channel and associated input amplifier gain at random. The sequencer circuitry circumvents a major limitation encountered with many plug-in data acquisition boards — a drastic reduction in the scan rate for external expansion channels. All DaqBoard/2000 series channels, including the 528 potential expansion channels, are scanned at 200 kHz (5 µs/channel). In addition, the digital and frequency inputs can be scanned using the same scan sequence employed for analog inputs, enabling the time correlation of acquired digital data to acquired analog data. The DaqBoard/2000 series permits each scan group, which can contain up to 512 channel/gain combinations, to be repeated immediately or at programmable intervals of up to 6 hours. Within each scan group, consecutive channels are measured at a fixed 5 µs/channel rate.

DaqBoard/2000 Series Scanning Example


Scan group
All channels within a scan group are measured at a fixed 5 µs/channel
t
Programmable, from 5 µs up to 6 hours
5 µs
t
Channel
Gain
Unipolar or bipolar
#2
x1
Uni
SE
#4
x8
Uni
DE
C1
#2
x2
Uni
SE
D2
#18
x100
Bi
DE
#164
x10
Bi
DE
#26
x1000
Uni
SE or DE
Unipolar or bipolar operation can be programmed for each channel dynamically by the sequencer
Gain can be programmed for each channel dynamically by the sequencer
Channels can be sampled dynamically by the sequencer
Any of the four counter inputs can be scanned along with analog and digital inputs
Any of the digital input ports can also be sampled along with the analog inputs
Analog expansion channels (up to 256) are sampled at the same rate as on-board channels

Digital and Pattern Triggering (P1). A separate digital trigger input line is provided, allowing TTL-level triggering, again with latencies guaranteed to be less than 5 µs. Both the logic levels (1 or 0), as well as the edge (rising or falling), can be programmed for the discrete digital trigger input.

Software-Based Triggering. Software-based triggering differs from the modes described above because the readings, analog, digital, or counter, are interrogated by the PC to detect the trigger event, not in the hardware as described above. The advantage of this mode is to permit triggering based on more complex situations, such as on a specific temperature, which was derived from the acquisition of at least two analog measurements, plus the calculation of the measured temperature using linearization algorithms.

The DaqBoard/2000 series also supports digital pattern triggering, whereby the user can designate any of the digital input ports as the trigger port. The programmed digital pattern,

DaqBoard/2000™ Series

General Information

including the ability to mask or ignore specific bits, is then compared to the actual input until a match is detected, after which the sequencer begins the scan sequence.

Triggering can also be programmed to occur when one of the counters reaches, exceeds, or is within a programmed level. Any of the built-in counter/totalizer channels can be programmed as a trigger source.

Normally software-based triggering results in long latencies from the time that a trigger condition is detected, until the actual capturing of data commences. However, the DaqBoard/2000 series circumvents this undesirable phenomenon by use of pre-trigger data. Specifically, when software-based triggering is employed, and the PC detects that a trigger condition has occurred, (which may be thousands of readings later than the actual occurrence of the signal), the DaqBoard driver automatically looks back to the location in memory where the actual trigger-causing measurement occurred. The acquired data that is presented to the user actually begins at the point where the trigger-causing measurement occurs. The latency in this mode is equal to one scan cycle.

Stop Trigger. Any of the software trigger modes described above can also be used to stop an acquisition. Thus an acquisition can be programmed to begin on one event, such as a temperature level, and then can stop on another event, such as a digital pattern.

Pre- and Post-Triggering Modes. Six modes of pre- and post-triggering are supported, providing a wide variety of options to accommodate any measurement requirement. When using pre-trigger, the user must use software-based triggering to initiate an acquisition.

No pre-trigger, post-trigger stop event. This, the simplest of modes, acquires data upon receipt of the trigger, and stops acquiring upon receipt of the stop-trigger event.

Fixed pre-trigger with post-trigger stop event. In this mode, the user specifies the number of pre-trigger readings to be acquired, after which, acquisition continues until a stop-trigger event occurs.

No pre-trigger, infinite post-trigger. No pre-trigger data is acquired in this mode. Instead, data is acquired beginning with the trigger event, and is terminated when the operator issues a command to halt the acquisition.

Fixed pre-trigger with infinite post-trigger. The user specifies the amount of pre-trigger data to acquire, after which the system continues to acquire data until the program issues a command to halt acquisition.

Variable pre-trigger with post trigger stop event*. Unlike the previous pre-trigger modes, this mode does not have to satisfy the pre-trigger number of readings before recognizing the trigger event. Thus the number of pre-trigger readings acquired is variable and dependent on the time of the trigger event relative to the start. In this mode, data continues to be acquired until the stop trigger event is detected.

Variable pre-trigger with infinite post trigger*. This is similar to the mode described above, except that the acquisition is terminated upon receipt of a command from the program to halt the acquisition.

Calibration

Every range on the DaqBoard/2000 series is calibrated from the factory using a digital calibration method. This method works by storing a correction factor for each range on the DaqBoard/2000 series at the time of calibration. Whenever a particular range is selected, the appropriate calibration constant is automatically applied to a compensating DAC, thereby calibrating the specific range. The result is that readings generated by the A/D are already calibrated, and do not require additional processing.

This is significantly better than other boards, that merely adjust the readings in software after they are transferred to the PC. That method has the disadvantage of reducing the dynamic range of the A/D, and can adversely affect the speed by which the PC can obtain a calibrated reading.

The DaqBoard/2000 series also has a user-cal mode, whereby the user can adjust the calibration of the board in their system, without destroying the factory calibration supplied with the board. This is accomplished by having 2 distinct calibration tables in the DaqBoard/2000 series on-board EPROM, one which contains the factory cal, and the other which is available for user calibration.

Analog Output (P3)

DaqBoard/2000, /2001, /2003, & /2004 Only

Two or four 16-bit, 100-kHz analog output channels are built into the DaqBoard/2000 series, with an output from -10V to +10V. These outputs are entirely separate from the D/As which are used to determine analog trigger level (some data acquisition board suppliers confusingly refer to trigger D/As as if they are available to the user). Through the use of Bus Mastering DMA, each D/A output can continuously output a waveform, which can be read from PC RAM or a file on the hard disk. In addition, a program can asynchronously output a value to either of the D/As for non-waveform applications, presuming that the D/A is not already being used in the waveform output mode. Additional low-speed D/A channels can be added to the DaqBoard through the use of the DBK2 analog output option card (see p. 149).

When used to generate waveforms, the D/As can be clocked in several different modes. Each D/A can be separately selected to be clocked from one of the sources described below.

Asynchronous internal clock. The on-board programmable clock can generate updates ranging from 1.5 Hz to 100 kHz, independent of any acquisition rate.

Synchronous internal clock. The rate of analog output update can be synchronized to the acquisition rate derived from 100 kHz to once every 5.96 hours.

Asynchronous external clock. A user-supplied external input clock can be used to pace the D/A, entirely independent of analog inputs.

Synchronous external clock. A user-supplied external input clock can pace both the D/A and the analog input.

* Driver support only

DaqBoard/2000™ Series

General Information

Digital Pattern Generation (P3)

The DaqBoard/2000 series supports digital pattern generation via Bus Mastering DMA on the 16-bit high-speed digital I/O port. In the same manner as Analog Output, the digital pattern can be read from PC RAM or a file on the hard disk. Digital pattern generation is clocked in the same four modes as described above with analog output*.

Digital Inputs and Outputs (P2, P3)

Forty TTL-level digital I/O lines are included in the DaqBoard/2000 series. They are divided into three 8-bit ports (P2) and one 16-bit port (P3). The P2 ports can be programmed in 8-bit groups as either input or output. The 16-bit P3 port can be programmed as all inputs or all outputs. Ports programmed as inputs can be part of the scan group and scanned along with other analog and digital input channels, or can be asynchronously accessed via the PC at any time, including when a scanned acquisition is occurring.

In addition, the P2 ports can be expanded up to 256 digital I/O lines using external DBK digital options (p. 143). These options are available as TTL-level I/O, relay output, or optically isolated input and output. Whenever expansion digital I/O is attached to the DaqBoard/2000 series, the P2 I/O lines are no longer user-programmable, and are instead used to communicate with the digital expansion options.

Counter Inputs (P3)

Four 16-bit counters are built into the DaqBoard/2000, each capable of counting up to 65,536 TTL-level transitions. Each of the four counters will accept frequency inputs up to 10 MHz. The counters can also be cascaded, allowing over four billion counts to be accumulated. As with all other inputs to the DaqBoard/2000 series, the counter inputs can be read asynchronously under program control, or synchronously as part of an analog and digital scan group.

DaqBoard/2000 Series Signal Conditioning & Expansion Options

Product	Description	Capacity	Page
DBK1	16-connector BNC interface module	16 connectors	143
DBK2	D/A voltage output card	4 channels	149
DBK4	dynamic signal input card	2 channels	150
DBK5	current output card	4 channels	152
DBK7	frequency to voltage input card	4 channels	154
DBK8	high voltage input card	8 channels	156
DBK9	RTD measurement card	8 channels	157
DBK10	expansion card enclosure module	3 cards	158
DBK11A	screw terminal card	40 terminals	159
DBK15	universal current/voltage input card	16 channels	160
DBK16	strain gage measurement card	2 channels	162
DBK17	simultaneous sample and hold card	4 channels	164
DBK18	low pass filter card	4 channels	166
DBK20	digital I/O card (screw-terminal connectors)	48 channels	168
DBK21	digital I/O card (male DB37 connectors)	48 channels	168
DBK23	optically isolated digital input module	24 channels	169
DBK24	optically isolated digital output module	24 channels	171
DBK25	relay output card	8 channels	173
DBK30A	rechargeable battery/excitation module	14.4 or 28.8 VDC	174
DBK32A	auxiliary power supply card	±15 VDC @ 500 mA	175
DBK33	triple-output auxiliary power supply card	±15 VDC @ 250 mA & +5 VDC @ 1000 mA	176
DBK40	BNC interface module	18 connectors	177
DBK41	analog expansion enclosure module	10 cards	178
DBK42	5B isolated signal conditioning module	16 channels	180
DBK43A	strain gage module	8 channels	182
DBK44	5B isolated signal conditioning card	2 channels	184
DBK45	SSH card with low pass filter	4 channels	186
DBK46	internal analog output card	4 channels	188
DBK50	isolated high-voltage input module	8 channels	188
DBK51	isolated low-voltage input module	8 channels	188
DBK60	3-slot expansion module w/customizable panels	3 cards	190
DBK70	vehicle network interface module	16 channels	192
DBK80	differential voltage input card with excitation output	16 channels	197
DBK81	TC/mV card with screw terminal connections	7 channels	198
DBK82	TC/mV card with screw terminal connections	14 channels	198
DBK83	TC/mV card with external screw terminal Pod and 18" cable	14 channels	198
DBK84	TC/mV module with mini TC connector jacks	14 channels	198
DBK200	adapter board for analog inputs	P1	121
DBK201	panel mount adapter board with three (DBK) expansion ports	P1, P2, P3	121
DBK202	screw terminal adapter board; solder locations for user-supplied resistors and R/C networks, with three expansion ports	120 terminals, P1, P2, P3	121
DBK203	same as DBK202 adapter board with a rugged metal enclosure	120 terminals, P1, P2, P3	121
DBK206	adapter board with removable screw terminals with three expansion ports	120 terminals, P1, P2, P3	122
DBK207	5B-isolated analog input signal conditioning board with two expansion ports	P1 (2)	201
DBK207/CJC	same as DBK207 plus on-board cold junction compensation, two expansion ports	P1 (2)	201
DBK208	Opto-22 signal conditioning board for isolated (solid-state relay) digital I/O with two P2 digital I/O expansion ports	P2 (2)	203
DBK209	same as DBK201 but rack and DIN rail mountable with optional kits	P1, P2, P3	121

Timer Outputs (P3)

Two 16-bit timer outputs are built into the DaqBoard/2000, each capable of generating different square waves with a programmable frequency range from 16 Hz to 1 MHz.

Multiple DaqBoards per PC

All of the features described for the DaqBoard/2000 can be replicated with up to four DaqBoard/2000s (PCI and cPCI) installed in the same PC. The serial number on each DaqBoard/2000 is used to differentiate one from another, and a user-selected name can be assigned to each board for easy program documentation. Thus, with four boards installed along with DBK expansion options, over 1,000 analog input channels and over 1,000 digital I/O channels could be accessed from one PC. When multiple boards are installed, all boards can be operated synchronously.

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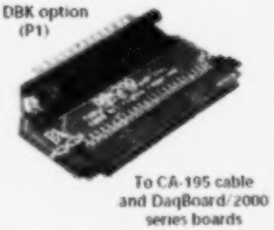
* When digital pattern generation is used, one of the analog output channels is limited to asynchronous output mode.

DaqBoard/2000™ Series
Connectivity Options

The DaqBoard/2000 series provides all I/O signals on one 100-pin connector. The following adapter options make it easy for the user to attach signals and expansion options to the DaqBoard/2000 series.

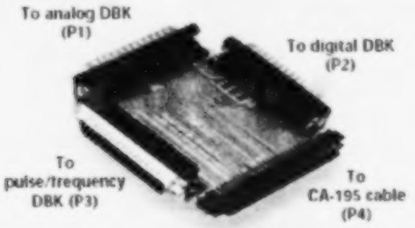
Note: The following boards are not depicted with respect to scale.



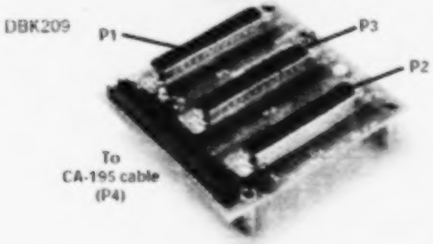
DBK200™ Adapter Board

Suitable exclusively for analog-signal expansion, the DBK200 adapter board contains one 100-pin connector which connects to the DaqBoard/2000 series via the CA-195 cable, and one female DB37 connector that mates directly with the P1 port of any of the DBK analog signal conditioning and expansion options. This is the most convenient way to add analog expansion options if access to the DaqBoard/2000 series digital I/O or frequency signals is not required. Access to P1 analog signals is also possible via included female-mating solder-lug connectors or optional CA-37-x* or CA-37-xT* expansion cables.

DBK201



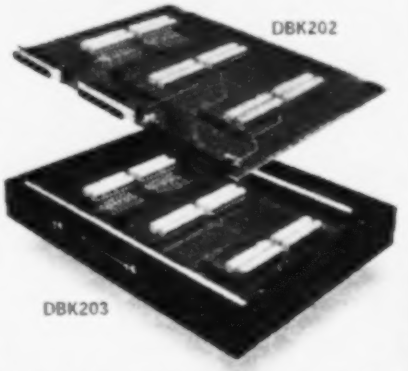
DBK209



DBK201™ & DBK209™ Adapter Boards

For both analog and digital expansion, the DBK201 adapter board mates with the DaqBoard/2000 series via a 3-ft. CA-195 cable. The DBK209 provides three male DB37 connectors, divided into P1 analog input, P2 digital I/O, and P3 analog output and counter/timer I/O. Each port on the DBK201 connects to DBK expansion options via an optional CA-37-x* or CA-37-xT* expansion cable. Alternatively, users can solder wires to the included DB37 female-mating solder-lug connectors, or custom make their own cables that are terminated with a female DB37. An optional 6-ft. cable is available that contains a mating female DB37 connector at one end, and is unterminated at the other end (CA-113). The DBK209 is identical in function to the DBK201 but is snap-track (DIN-rail), and rack-mountable with optional mounting kits.

The CA-195 100-pin conductor cable connects the DaqBoard/2000 series boards with the DBK200 series adapters



DBK202™ Screw-Terminal Adapter Board

The DBK202 screw-terminal board provides convenient screw-terminal access to all signals from the DaqBoard/2000 series. Divided into three ports (P1, P2, and P3), the DBK202 also provides another way to access signals. There are male DB37 connectors on P1 and P2, and an adapter cable (CA-60) can be used to connect to the P3 header for connection to DBK signal conditioning and expansion options. Mounting holes in the DBK202 permit it to be easily screw-mounted into a user-provided enclosure.

DBK203™ Screw-Terminal Adapter Module

The DBK203 is identical to the DBK202, except that it is housed in a shielded metal enclosure, which easily mounts to other DBK signal conditioning and expansion modules. Optional fastener panels are available for attaching other DBK modules.

- The "x" in the cable part numbers should be replaced by the number of expansion products to be connected

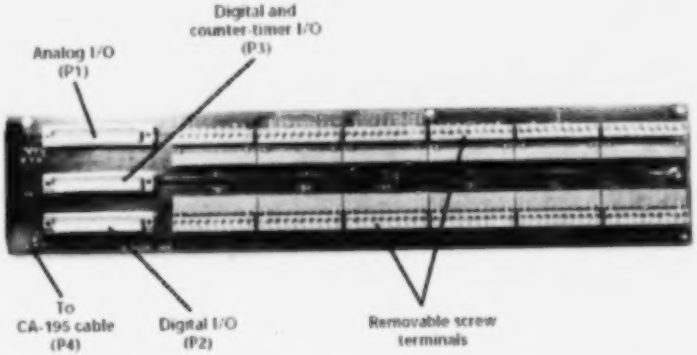
PC Data Acquisition Hardware

DaqBoard/2000™ Series

Connectivity Options

DBK206 Screw-Terminal Adapter Board

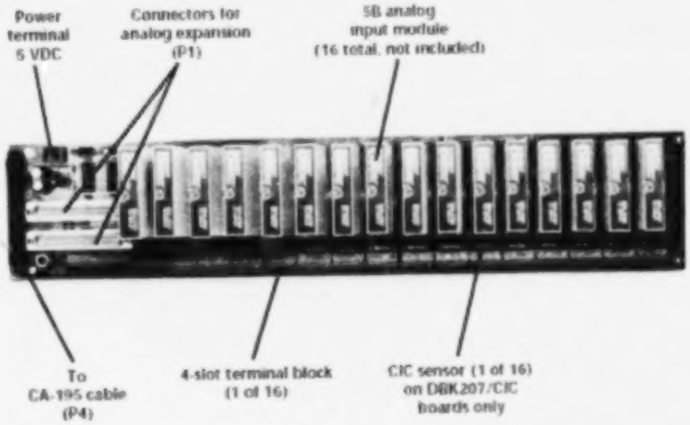
Similar in function to the DBK202, but designed for mounting in 19-inch enclosures, the DBK206 features three vertically mounted straight male DB37 connectors for analog and digital channel expansion (P1 analog I/O, P2 digital I/O, and P3 digital and counter-timer, and analog output). Two rows of removable screw terminals provide convenient access to all DaqBoard/2000 series I/O signals (10-22 AWG wire). It mates with the DaqBoard/2000 series via a 3ft. CA-195 cable, and each port (P1, P2, and P3) connects to DBK signal conditioning and expansion options via optional CA-37-x cable(s). The standard DBK206 can be panel mounted, but it also is DIN-rail mountable with option DIN2 and is rack-mountable with option Rack3 (see p. 123).


Analog I/O (P1)
Digital and counter-timer I/O (P3)
To CA-195 cable (P4)
Digital I/O (P2)
Removable screw terminals

DBK207 & DBK207/CJC™ Multiplexing Isolated Analog Input Board

The DBK207 provides sockets for 16 channels of isolated analog input when populated with industry standard 5B-style or compatible signal conditioning modules (sold separately, see p. 205). Each channel features screw-terminals and sockets for current conversion resistors (supplied with 5B current input modules). The DBK207/CJC features added cold-junction compensation per channel for thermocouple-based measurements.

Multiplexing is built-in allowing up to 16 DBK207 boards to be directly connected to one DaqBoard/2000 series board for a total signal capacity of 256 isolated analog inputs. The 100-pin P4 connector on the DBK207 attaches directly to the DaqBoard (via CA-195 cable). Two DB37 connectors permit daisy chaining to other DBK207 boards, and to any of the other DBK analog signal conditioning boards and modules. The DBK207/CJC and the DBK207 can be rack or snap-track mounted with optional mounting kits. See p. 123 for complete information on the DBK207 and DBK207/CJC.


Power terminal 5 VDC
Connectors for analog expansion (P1)
5B analog input module (16 total, not included)
To CA-195 cable (P4)
4-slot terminal block (1 of 16)
CJC sensor (1 of 16) on DBK207/CJC boards only

DaqBoard/2000™ Series

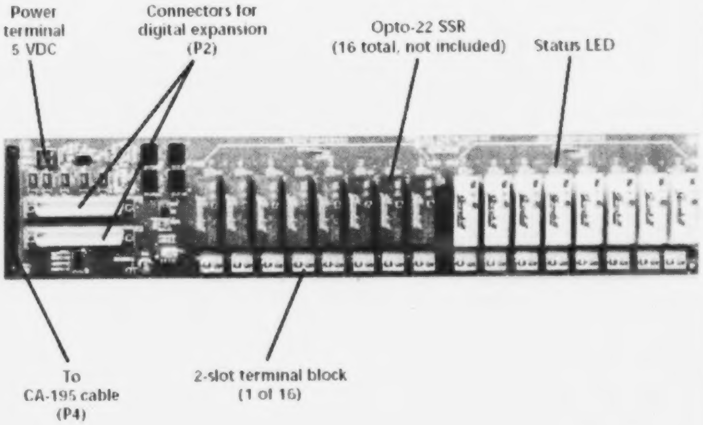
Connectivity Options

DBK208™ Multiplexing Isolated Digital I/O Board

The DBK208™ provides sockets for 16 channels of isolated digital I/O when populated with industry standard Opto-22®-style or compatible solid-state-relay modules (sold separately, see p. 207). Each socket also features screw-terminals and an LED to indicate logic status. The 16 digital I/O can be jumper configured as either inputs or outputs in 8-channel groups.

Multiplexing is built-in allowing up to 16 DBK208 boards to be connected to one DaqBoard/2000 series board, for a total signal capacity of 256 isolated digital I/O channels. On-board logic insures that outputs are disabled during power-up and by a computer (CPU) reset. Also included is the ability to choose whether outputs are "off", or in the "last known state" when loss of external power occurs.

The 100-pin P4 connector on the DBK208 attaches directly to a DaqBoard/2000 series board (via CA-195 cable) while two DB37 connectors permit daisy chaining to other DBK208 boards, and to any of the other DBK digital boards and modules. See p. 203 for complete information on the DBK208.

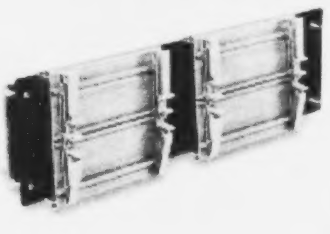

Power terminal 5 VDC
Connectors for digital expansion (P2)
Opto-22 SSR (16 total, not included)
Status LED
To CA-195 cable (P4)
2-slot terminal block (1 of 16)

Rack3™ Rack-Mount Kit

Rack-mount kit for the DBK206, DBK207, DBK207/CJC, DBK208, and DBK209 signal termination and expansion boards.

DIN1™ & DIN2™ DIN-Rail Kit

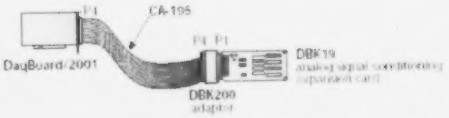
Snap-track (DIN-rail) mounting kit for the DBK206, DBK207, DBK207/CJC, and DBK208 signal termination and expansion boards. Specify DIN2 for DBK209 only.



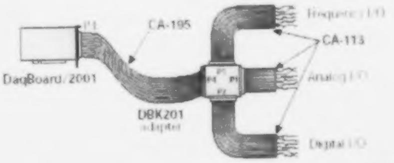
DaqBoard/2000™ Series

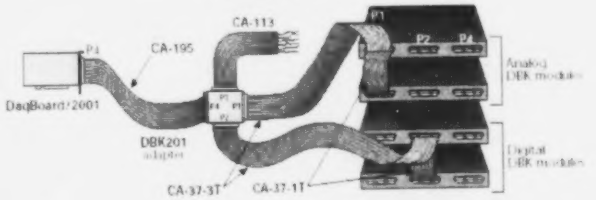
Connectivity Options

System Configuration Examples

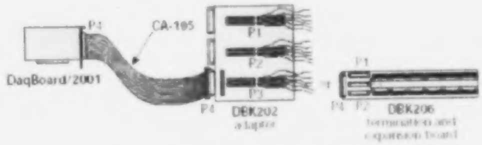

P4
CA-195
P4 P1
DaqBoard/2001
DBK19
analog signal conditioning expansion card
DBK200
adapter

The DBK200 adapter mates directly with analog DBK signal conditioning options

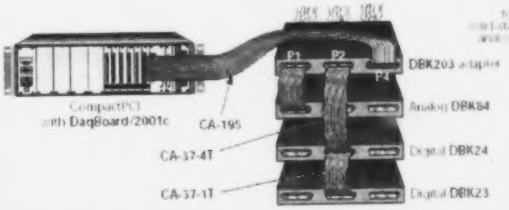

P4
CA-195
Frequency I/O
CA-113
Analog I/O
Digital I/O
DaqBoard/2001
DBK201
adapter


CA-113
P4
CA-195
P1
P2
P4
Analog DBK modules
Digital DBK modules
DaqBoard/2001
DBK201
adapter
CA-37-3T
CA-37-1T

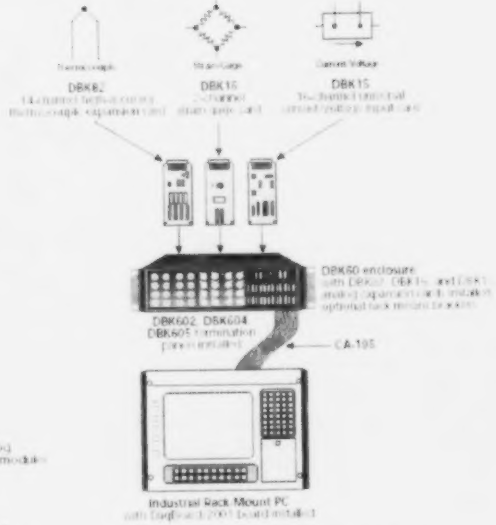
The DBK201 adapter with analog and digital DBK signal conditioning and expansion modules


P4
CA-195
P1
P2
P3
DaqBoard/2001
P4
DBK202
adapter
P1
P4 P2
DBK206
termination and expansion board

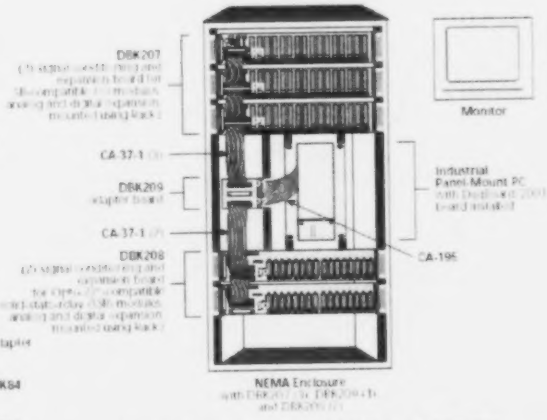
The DBK202 or DBK206 (P1, P2, P3) adapter with screw-terminal connectors


P1
P2
P4
DBK203 adapter
Analog DBK84
Digital DBK24
Digital DBK23
CompactPCI with DaqBoard/2001c
CA-195
CA-37-4T
CA-37-1T

The DBK203 adapter with screw-terminal connectors


DBK82
DBK16
DBK15
DBK60 enclosure
DBK602, DBK604
DBK605 termination
CA-195
Industrial Rack Mount PC
with DaqBoard/2001 board installed

The DBK60 ruggedized rack-mount enclosure with optional signal conditioning and termination panels


DBK207
Monitor
CA-37-1
DBK209
adapter board
Industrial Panel-Mount PC
CA-37-1
DBK208
CA-195
NEMA Enclosure

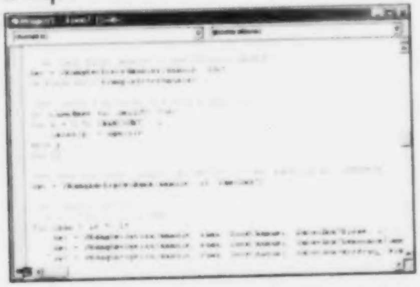
The DBK209 adapter with DBK207 and DBK208 isolated analog input and digital I/O signal conditioning and expansion boards (16 max) with Rack3 mounting option

Software Support

Included Software for DaqBoard/2000™ Series

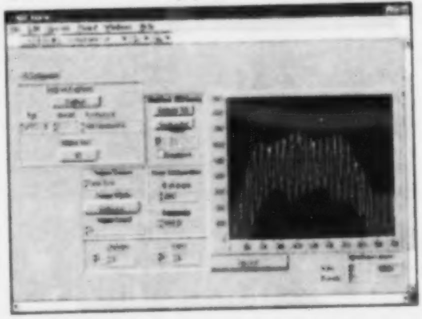
The DaqBoard/2000™ series is supported by several levels of software support, allowing you to select the software environment that best fits your application and skill set. On this page is a description of the software that is included with every DaqBoard/2000. The next page is an overview of optional software available for the DaqBoard/2000.

DaqX Subroutine API Libraries



DaqBoard/2000 series is supplied with free DaqX Subroutine API Libraries providing complete support for all of the functionality available on each data acquisition device in Visual Basic®, C/C++, and Delphi™. Further, DaqX is supported under all versions of Windows®. Included with DaqX Subroutine API Libraries are over 100 example programs, and comprehensive API documentation is provided through an online programmers manual.

LabVIEW® Support



IOtech offers extensive LabVIEW® support for the DaqBoard/2000 series, including expansion and signal conditioning modules. IOtech data acquisition VIs for LabVIEW are more than just simple hardware access VIs, they are full blown examples complete with engineering data conversion, data display and logging capabilities.

Linux for the DaqBoard/2000™ Series

Features

- **Support for all DaqBoard/2000 PCI Series products including the CompactPCI product lines**
- **Support for all DBK digital and analog expansion cards and modules**
- **Over 50 example programs in C using the features of the DaqBoard/2000 series as well as most DBK expansion modules.**
- **Source is available for user modification and customization**
- **Support for multiple DaqBoard/2000 series devices**

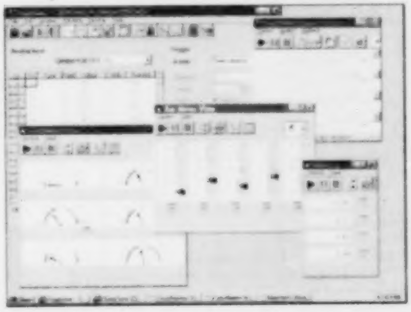
Linux drivers for the DaqBoard/2000 series products provide an effective and robust alternative for non-Windows based data acquisition applications. IOtech's Linux drivers for the DaqBoard/2000 series products include support for all DBK series expansion as well as extensive example programs for most DBKs and features provided by the DaqBoard/2000 series products.

- Synchronous scanning of Analog, Digital Input and Counter input channels up to 200 kHz
- Asynchronous I/O operations for Digital I/O, Counter Input and Analog output channels
- Synchronous streamed Analog Waveform and Digital Pattern output up to 100 kHz
- Analog, Digital and Counter channel Start Trigger and Stop Trigger events
- DBK expansion support for expansion and signal conditioning options, including temperature (TC and RTD), high voltage, frequency input, strain gage, digital I/O, and 5B options
- Sophisticated buffering features allow the application to collect acquired data in a variety of ways
- Over 50 example programs written in C using all the features of the DaqBoard/2000 Series along with examples for most DBK expansion and signal conditioning cards and modules
- Tunable input update rate allows the application to optimize throughput and I/O turn-around times

Software Support

Optional Software for DaqBoard/2000™ Series

DaqView2000™ & eZ-PostView™

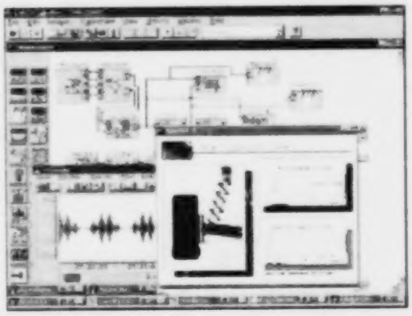


DaqView2000™ graphical data acquisition and display software is available for all DaqBoard/2000 series systems. Using DaqView software's spreadsheet-style interface, you can easily set up your application and begin taking data within minutes of connecting your hardware, with no programming required (see p. 138). Included with DaqView2000 is eZ-PostView which makes it simple to visually inspect acquired waveforms from multiple channels within seconds of acquiring the data. See p. 228 for complete information.

eZ-TimeView™ & eZ-FrequencyView™

eZ-TimeView™ and eZ-FrequencyView™ are post-acquisition analysis packages for data acquired from the DaqBoard/2000 series. eZ-TimeView is targeted at time-domain analysis, including min/max, peak-peak, mean, RMS, plus a wide variety of plotting and waveform viewing capabilities. eZ-FrequencyView is targeted at post-acquisition frequency-domain analysis, including FFT's, octave analysis, plus dozens of other analysis features. See p. 229-230 for complete information.

DASYLab®



If your application requirements go beyond the scope of DaqView™, DASYLab® software offers a greater degree of flexibility and customization. You can learn DASYLab in a matter of days, without the weeks of training required for some other icon-based application-development software. See p. 223 for complete information.

DaqCOM™ ActiveX/COM Support

DaqCOM
IOtech

The DaqCOM™ suite of programming allows applications developers to rapidly develop and deploy custom systems by leveraging COM (Component Object Model) technology. DaqCOM does this by providing a powerful easy-to-use interface to most programming languages including, Visual Basic®, VBA, C++, Delphi™ and J++. In addition, DaqCOM supports the new Windows.NET architecture and includes examples for VisualBasic.NET and C. See p. 221 for complete information.

DaqBoard/2000™ Series

Specifications

Specifications

General (all boards)

Power Consumption (per board) 3.5W (up to 10W with external accessories)

Power Available for External Signal Conditioning and Expansion Options 5V at 1A (all boards); ±15V at 75 mA each (except for /2002)

Operating Temperature 0° to +60°C

Vibration MIL STD 810E

Signal I/O Connector 100-pin high-density edge-type carries all analog and digital I/O signals

Dimensions 165 mm W x 15 mm D x 108 mm H (6.5" x 0.6" x 4.2")

Analog Inputs (/2000, /2001 & /2005)

Channels 16 single-ended or 8 differential, programmable on a per-channel basis as single-ended or differential and unipolar or bipolar

Expansion Up to 256 channels per board (4 boards per PC), without degradation in maximum channel-to-channel scan rate (5 µs/channel)

Bandwidth 500 kHz

Settling Time 5 µs to 1 LSB for full-scale step

Maximum Input Voltage ±11V relative to analog common

Over Voltage Protection ±35V

Ranges Software or sequencer selectable on a per-channel basis

Voltage Range*	Accuracy** One Year, 0-35°C (% reading + % range)	
	Absolute	**Transfer†**
0 to +10V	0.015 + 0.005	0.004 + 0.001
0 to +5V	0.015 + 0.005	0.004 + 0.002
0 to +2.5V	0.015 + 0.005	0.004 + 0.002
0 to +1.25V	0.015 + 0.008	0.004 + 0.002
0 to +0.625V	0.015 + 0.008	0.004 + 0.002
0 to +0.3125V	0.015 + 0.008	0.004 + 0.002
-10 to +10V	0.015 + 0.005	0.004 + 0.001
-5 to +5V	0.015 + 0.005	0.004 + 0.001
-2.5 to +2.5V	0.015 + 0.005	0.004 + 0.001
-1.25 to +1.25V	0.015 + 0.005	0.004 + 0.001
-0.625 to +0.625V	0.015 + 0.008	0.004 + 0.001
-0.3125 to +0.3125V	0.015 + 0.008	0.004 + 0.001
-0.156 to +0.156V	0.02 + 0.008	0.004 + 0.001

* Specifications assume differential input single channel scan, 200 kHz scan rate, unfiltered.

** Accuracy specification is exclusive of noise.

† Transfer accuracy assumes calibration drift compensated, applicable for measurements made ±5°C from ambient temperature at calibration.

A/D Specifications (/2000, /2001, & /2005)

Type Successive approximation

Resolution 16 bit

Conversion Time 5 µs

Maximum Sample Rate 200 kHz

Nonlinearity (Integral) ±1 LSB

Nonlinearity (Differential) No missing codes

Input Sequencer (/2000, /2001, /2002, /2004 & /2005)

Analog, digital and counter inputs can be scanned synchronously, based on either an internal programmable timer, or an external clock source. Analog and digital outputs can be synchronized to either of these clocks.

Scan Clock Sources 2

1. Internal, programmable from 5 µs to 5.96 hours in 5 µs steps
2. External, TTL level input up to 200 kHz max

Programmable Parameters per Scan Channel (random order), gain, unipolar/bipolar

Depth 512 location

On-Board Channel-to-Channel Scan Rate 5 or 10 µs per channel, programmable

Expansion Channel Scan Rate 5 or 10 µs per channel, programmable

External Acquisition Scan Clock Input (/2000, /2001, & /2005)

Maximum Rate 200 kHz

Clock Signal Range 0V to +5V

Minimum Pulse Width 50 ns high, 50 ns low

Triggering

Trigger Sources 6, individually selectable for starting and stopping an acquisition. Stop acquisition can occur on a different trigger source other than start acquisition, and can be triggered via modes 2, 4, 5, or 6. Pre-trigger is supported with fixed or variable pre-trigger periods.

1. Single-Channel Analog Hardware Trigger
   Latency 5 µs max (/2000, /2001, & /2005)
2. Single-Channel Analog Software Trigger
   Latency One scan period max
   (/2000, /2001, & /2005)
3. Single-Channel Digital Trigger
   Latency 5 µs max
   (/2000, /2001, /2002, /2004, & /2005)
4. Digital Pattern Triggering
   Latency One scan period max
   (/2000, /2001, /2002, /2004, & /2005)
5. Counter/Totalizer Triggering
   (/2000, /2001, /2002, /2004, & /2005)
   Latency One scan period, max (all boards)
6. Software Triggering (all boards)
   Trigger can be initiated under program control.

Analog Outputs (/2000, /2001, /2003, & /2004)

The two or four analog output channels are updated synchronously relative to scanned inputs, and clocked from either an internal onboard clock, or an external clock source. Analog outputs can be updated asynchronously, independent of any other scanning in the system. Bus Mastering DMA provides CPU and system-independent data transfers, ensuring accurate outputs independent of other system activities. Streaming from disk or memory is supported, allowing continuous, nearly-infinite length, waveform outputs (limited only by available PC system resources).

Channels 2 (/2000); 4 (/2001, /2003, & /2004)

Resolution 16 bits

Output Voltage Range ±10V

Clock Sources 4, programmable

1. Onboard D/A clock, independent of scanning input clock
2. Onboard scanning input clock (/2000, /2001, & /2004 only)
3. External D/A input clock, independent of external scanning input clock
4. External scanning input clock (/2000, /2001, & /2004 only)

Digital I/O (/2000, /2001, /2002, /2004, & /2005)

Channels 40, expandable up to 208 with DBK options

Input Scanning Modes 2, programmable

1. Asynchronous, under program control at anytime
2. Synchronous with input scanning

Ports 3 x 8-bit (82C55 emulation) and 1 x 16-bit. Each port is software programmable as input or output

Input Characteristics 100 Ohm series, 20 pF to common

I/O Levels TTL

Sampling/Update Rate 200 kHz max

Output Characteristics Output 12 mA per pin, 200 mA total continuous (per bank of 40 outputs)

Pattern Generation Output (/2000, /2001, /2002, /2004, & /2005)

The P3 16-bit digital I/O port can be configured for 16-bit pattern generation. The pattern can be updated synchronously with an acquisition.

Counter (/2000, /2001, /2002, /2004, & /2005)

Counter inputs can be scanned synchronously along with analog and digital scanned inputs, based either on internal programmable timer, or an external clock source. Counter can also be read asynchronously.

Channels 4 x 16-bit; cascadable as 2 x 32-bit

Frequency Measurement Rate 10 MHz max

Trigger Level TTL

Frequency/Pulse Generators (/2000, /2001, /2002, /2004, & /2005)

Channels 2 x 16-bit

Output 1-MHz base rate divided by 1 to 65,535 (programmable)

DaqBoard/2000™ Series

Ordering Information

Ordering Information

Description	Part No.
16-bit, 200-kHz data acquisition board for PCI-bus PCs with 16 analog inputs, two 16-bit, 100 kHz analog outputs, 40 digital I/O, four 16-bit counter-timers, and two 16-bit frequency/pulse generators; includes DaqX API library, drivers for Visual Basic®, C++, and Delphi™ for Windows® 95 and higher; C++ for Linux, DASYLab®, TestPoint®, & LabVIEW®	DaqBoard/2000
CompactPCI version	DaqBoard/2000c
Same as DaqBoard/2000 but with four 16-bit, 100-kHz analog outputs	DaqBoard/2001
CompactPCI version	DaqBoard/2001c
Same as DaqBoard/2001 but with no analog I/O	DaqBoard/2002
CompactPCI version	DaqBoard/2002c
Data acquisition board for PCI-bus PCs with four 16-bit, 100-kHz analog outputs	DaqBoard/2003
CompactPCI version	DaqBoard/2003c
Same as DaqBoard/2001 but with no analog inputs	DaqBoard/2004
CompactPCI version	DaqBoard/2004c
Same as DaqBoard/2001 but with no analog outputs	DaqBoard/2005
CompactPCI version	DaqBoard/2005c
DaqBoard/2000, DaqView2000 software, DBK202 and CA-195	DAQ2000/STR-KIT

Accessories

Description	Part No.
Adapter board, directly connects DBK signal conditioning and expansion options (P1, analog only) to a CA-195 or CA-209 expansion cable	DBK200
Adapter board, connects all DBK signal conditioning and expansion options to a CA-195 or CA-209 expansion cable	DBK201
Adapter board with screw terminals also connects DBK signal conditioning and expansion options to a CA-195 or CA-209 expansion cable	DBK202
Same as DBK202 but housed in a shielded metal enclosure	DBK203
Termination and expansion board with removable screw terminals for access to all DaqBoard/2000 series I/O with direct connection for DBK signal conditioning and expansion options (P1, P2 and P3 for analog and digital I/O via CA-37-1 cables); connects to DaqBoard/2000 series P4 connector via a CA-195 or CA-209 cable	DBK206
Termination and (P1) expansion board with fixed screw terminals and sockets for up to 16 multiplexed 5B-compatible isolated analog input modules; connects to DaqBoard/2000 series (P4) connector via a CA-195 or CA-209 cable and to LogBook or DaqBook series devices (P1) connector via CA-37-1	DBK207
Same as DBK207 but with on board, cold-junction compensation and two (P1) expansion ports	DBK207/CJC
Termination and expansion board with fixed screw terminals (12 to 26 AWG wire), sockets for up to sixteen Opto-22®-compatible isolated solid-state-relay (SSR) digital I/O modules, and status LEDs per channel connects to DaqBoard/2000 series P4 connector via a CA-195 or CA-209 cable	DBK208
Same as DBK201 but rack and DIN-rail mountable with optional kits	DBK209
Rack-mount kit for DBK206, DBK207, DBK207/CJC, DBK208, and DBK209 signal termination and expansion boards	Rack3
DIN-rail adapter kit for DBK206, DBK207, DBK207/CJC, and DBK208 signal termination and expansion boards	DIN1
DIN-rail adapter kit for DBK209 signal termination and expansion board	DIN2
Optional hardcopy manual set (3); includes programmer's manual, DaqBoard/2000 & DaqBoard/2000c series user's manual, and DBK option cards & modules user's manual	1033-0900

Cables

Description	Part No.
Expansion-card cable for connecting DBK series expansion options; specify number of option cards (x) to be connected	CA-37-x
Ribbon cable with female DB37 connector, provides convenient wiring to P1, P2, and P3 ports without requiring soldering to DB37 connectors, 6 ft.	CA-113
100-conductor expansion cable, mates with the DaqBoard/2000 series boards and the DBK200, DBK201, DBK202, DBK203, DBK206, DBK207, DBK207/CJC, DBK208, and DBK209	
3 ft. expansion cable	CA-195
6 ft. expansion cable	CA-195-6
Same as CA-195 with CE compliance; 3 ft.	CA-209

Software

Description	Part No.
DaqView™ for setup, data acquisition, display, and analysis; DaqViewXL™ for seamless execution within Microsoft® Excel's tool palette, and eZ-PostView™ for post-acquisition viewing and analysis	DaqView2000
Icon-based data acquisition, graphics, control, and analysis software	DASYLab
ActiveX/COM-based applications program interface	DaqCOM
DaqCOM™ with network support	DaqCOM/NET
Data acquisition grid control for Visual Basic	DaqCOM/OCX
Post-acquisition time-domain analysis software for data acquired from the DaqBoard/2000	eZ-TimeView
Post-acquisition fequency-domain analysis software for data acquired from the DaqBoard/2000	eZ-FrequencyView

Related Products

Expansion Hardware	
DBK1	p. 148
DBK2	p. 149
DBK4	p. 150
DBK5	p. 152
DBK7	p. 154
DBK8	p. 156
DBK9	p. 157
DBK10	p. 158
DBK11A	p. 159
DBK15	p. 160
DBK16	p. 162
DBK17	p. 164
DBK18	p. 166
DBK20	p. 168
DBK21	p. 168
DBK23	p. 169
DBK24	p. 171
DBK25	p. 173
DBK30A	p. 174
DBK32A	p. 175
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DBK41	p. 178
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DBK43A	p. 182
DBK44	p. 184
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DBK70	p. 192
DBK80	p. 197
DBK81	p. 198
DBK82	p. 198
DBK83	p. 198
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Software	
Linux Driver	p. 125
DaqView	p. 138
DaqViewXL	p. 138
DaqCOM	p. 221
DASYLab	p. 223

PCIxWDT-1303-1/1
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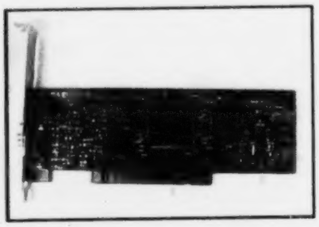

Models: PCIRWDT & PCIXWDT

PCI Watchdog Timers for Windows NT CE

Introduction

The PCI Watchdog Timer Cards are designed to overcome the dangers or annoyances associated with PCs locking up. The NT device driver will try a software reboot before it does a hardware reboot, saving the time it takes to get your server back on line. PCs used in remote or dial-up applications, to control external devices, or performing data acquisition can all benefit from a watchdog. If the controlling software hangs or crashes, the watchdog will timeout and reset the computer. The application software must reset the card's counter every timeout period to prevent the watchdog from rebooting the computer. The PCI watchdogs have a SPDT Form C Relay output to allow an external device or alarm to be controlled.

Model **PCIRWDT** uses the reset lines from the motherboard to reset the computer.

Model **PCIXWDT** uses the ATX/ATX12V power supply to turn the computer off for 10 seconds, then turn it on again causing the computer to reset.

Features

- Software selectable timeout period from 0.5 to 512 seconds. Range can be increased with hardware modifications
- 4 bit read write timeout register
- Software enable and disable
- Form C relay output to control external device
- PCIRWDT: Non-splicing connection to the motherboard's reset pins
- PCIXWDT: Non-splicing connection to ATX/ATX12V power supply

Specifications

O/S:	Win 98, 2000, ME, NT
Dimensions:	2.5H x 6.9L in (6.35 x 17.5 cm)
Address:	PCI Plug and Play
Power:	1.5W maximum
Output spec:	Form C Relay, SPDT output Maximum ratings 24 VDC at 1.0 A 115 VAC at 0.5 A
Connector:	DB-9 male

Connections

In order for the PCIRWDT to reboot the host computer, a connection must be made to the reset pins on the motherboard in parallel with the reset switch. A jumper wire is provided with the PCIRWDT to make this connection. Note that some PCs do not include these pins on the motherboard.

In order for the PCIXWDT to restart the host computer, a connection must be made between the ATX/ATX12V power supply and the PCIXWDT. A jumper wire is provided with the PCIXWDT to make this connection. Note that some PCs do not have the ATX/ATX12V power supply. The ATX/ATX12V power supply will be a single 20-pin connector to the motherboard. If there are two connectors from the power supply to the motherboard this is not an ATX/ATX12V power supply. An additional Form C Relay output connection can be made through the DB9 connector to an external alarm or to shut down another device.

DECLARATION OF CONFORMITY

Manufacturer's Name:	B&B Electronics Manufacturing Company
Manufacturer's Address:	P.O. Box 1040 707 Dayton Road Ottawa, IL 61350 USA
Model Numbers:	PCIRWDT, PCIXWDT
Description:	PC Watchdog Timer for Windows NT
Type:	Light industrial ITE equipment
Application of Council Directive:	89/336/EEC
Standards:	EN55022 EN50082-1: EN61000-(-4-2, -4-3, -4-4, -4-6)

William H. Franklin III, Director of Engineering

Operation

A program calls a DLL function from Windows NT to write to the PCI watchdog device driver. The device driver will then write or read from the watchdog. When the timeout is reached the device driver will try a software reboot. If this fails the PCI watchdog will do a hardware reboot.

Software

The PCIXWDT and PCIRWDT come with the NT device driver and sample code.

B&B's Watchdog Family Selection Guide

Model	Bus	Timeout Register	Operating System	Output Relay Connecter	Reboot Connector
ATRWDT	ISA	4-bit, read-write, 1-bit reset flag	DOS, Win 9x, Windows NT	DB9 Male	Motherboard reset pins
ATXWDT	ISA	4-bit, read-write	DOS, Win 9x, Windows NT	DB9 Male	ATX/ATX12V Power Supply Connector
PCWDT	ISA	4-bit, write only	DOS, Win 9x, Windows NT	DB25 Male	Motherboard reset pins
PCIRWDT	PCI	4-bit, read-write, 1-bit reset flag	Windows 98/2000/ME/NT	DB9 Male	Motherboard reset pins
PCIXWDT	PCI	4-bit, read-write	Windows 98/2000/ME/NT	DB9 Male	ATX/ATX12V Power Supply Connector

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APPENDIX D

Hardware and Software

1. List of hardware brought back to Richard Desaulniers (POM) – May 23rd 2002.

Quantity	Type	Company	Model	Serial number	From
1	Motherboard	Aopen	Ax5TC		LICO2
1	Mémoire RAM 64mo	Toshiba		9963790	LICO2
1	Mémoire RAM 64mo	Toshiba		9963078	LICO2
1	Pentium 200mhz				LICO2
1	Motherboard	Aopen	Ax5TC		LICO1
1	Frame for removable hard disk				LICO1
1	Frame for removable hard disk				LICO2
1	Frame for removable hard disk				CORAIL2
1	Modem (ISA)	3com	005687-03	238xb4c9ua05	Corail3
1	Modem	US Robotics	33.6 fax modem	000839052ci6lak0	
1	ac for modem		dv-9750-5		
1	Pentium 120mhz	Intel	88100008-1054	A80502166 SY016	AEI
1	Memory RAM 16mo		DRAM	9719060	AEI
1	Memory RAM 16mo		DRAM	9719064	AEI
1	Keyboard	Keytronic	eo3435xtat	6320603	
1	Keyboard	Agi computer	ep3435xtat	14716	
1	Mouse	Microsoft		968940	
1	Mouse	Mitsumi	Serial	9705701	
1	Mouse	Microsoft		30443	
1	Mouse	Microsoft		0651826-50000	
1	Computer switch ABCD				
1	Computer switch ABCD	Manhattan			
1	Casing				CORAIL3

2. Computer components - LICO 1 - Hardware and software

Quantity	Type	Slot	Company	Model	Serial number	From
1	Motherboard		Technoland	TL-MB-8000	32C840092C27	New
1	Pentium IV 1,8 Ghz		Intel	109X9412T54046	A65061-002	New
1	Hard Disk 20 Gb ATA/100		Western Digital	wd200bb-32aua1	wma6w2083223	Corail2
1	ISA Card	ISA	ADT	ATIB		Lico1
1	Network Card	PCI 1	3COM	3c905c-tx-m	HJE1E73904	Lico1
1	256 Mb RAM DDR		Kingston	KVR266X64C2/256		New
1	Floppy 3.5"		Panasonic	ju-257a606pc	2534690	Lico1
1	CD-ROM 52X		LG	CRD-8521B	1BHF021146	New
1	Video Card	PCI 3	ATI	1024060600512810	TS81305609	Lico1
1	Card - 2 ports 15 pins	PCI 2		164720t3152-ls	456053	Lico1
1	Casing		AOPEN	HX 95	918004	New
1	Power Supply		Tiger Pro	TP-300	D2A193284	New

Software	Version	Licence
Microsoft Windows 2000 Professional Upgrade	2000	H484J-FFKC2-KBHJV-3DCHT-CPG37
Service Pack for Windows 2000 Professionnal	2	
Service Pack for Windows 2000 Professionnal	3	
VIA Service Pack	4.24 (1)	
Diskeeper	7.0	WDK7E-33272
Bios update for CA63-SN REV.A	Date : 03/19/2001	
3COM 905-TX-M driver	4.16.0.0	
Microsoft Explorer	6	

LICO2 – Hardware and software

Quantity	Type	Slot	Company	Model	Serial number	From
1	Motherboard		DFI	CA63-SN	JPCO11013Y	New
1	Pentium IV 1,8 Ghz		Intel			New
1	Hard Disk 20 Gb ATA/100		Western Digital	wd200bb-00aua1	wma6y4478005	Corail3
1	ISA Card		ADT	ATIB		Lico2
1	Network Card	PCI 1	3COM	3c905c-tx-m	HJE1E736BC	Lico2
1	256 Mb RAM DDR		Kingston	KVR266X64C2/256		New
1	Floppy 3.5"		Panasonic	ju-257a606pc	2534971	Lico2
1	CD-ROM 52X		LG	CRD-8521B	1BHF021160	New
1	Video Card	PCI 3	ATI	1024060600512810	TS81305711	Lico2
1	Card - 2 ports 15 pins	PCI 2		164720t3152-ls	480766	Lico2
1	Casing		AOPEN	HX 95	918004	Lico2
1	Power Supply		Tiger Pro	TP-300	D2A193167	Corail2

Software	Version	Licence
Microsoft Windows 2000 Professional Upgrade	2000	HV9TP-HX64K-TQKF8-MRJP2-Q9KX4
Service Pack for Windows 2000 Professionnal	2	
Service Pack for Windows 2000 Professionnal	3	
VIA Service Pack	4.24 (1)	
Diskeeper	7.0	WDK7E-33237
Bios update for CA63-SN REV.A	Date : 03/19/2001	
3COM 905-TX-M driver	4.16.0.0	
Microsoft Explorer	6	

CORAIL 1 – Hardware and software

Quantity	Type	Slot	Company	Model	Serial number	From
1	Power Supply		Macron Power	MPT-301	N.2100740064	New
1	Motherboard		DFI	NB7003-0	D15120592	New
1	Pentium IV processor 1,7 ghz		Intel	BX80531NK170GSL5UG		New
1	256 MB RAM DDR					New
1	Video card	AGP	Xpert2000 pro 32M AGP	1025-B4030 00130	A205096718	New
1	Modem 56k	PCI 2	US Robotics	USR5610B	23PBGBIBO7YB	New
1	CD-ROM 52X		LG	CRD-8521B	1BHF021155	New
1	IDE Removable drive drawer		Startech	SNT127A		
1	Hard disk 20 GB		Maxtor	D740X-6L	661208148367	
1	Hard disk 40 GB ATA/100		Western Digital	WD400BB-00CAA0	WMA8H2595266	New
1	Floppy 3.5"		Futjitsu	m2537d15f	6638d b	Corail3
1	Network card	PCI 3	3COM	3c905c-tx-m	her2daf56f	Corail3

Software	Version	Licence
Microsoft Windows 2000 Professional Upgrade	2000	D4HRM-CHC77-F37P6-6DP2M-VD2F3
Service Pack for Windows 2000 Professionnal	2	
Service Pack for Windows 2000 Professionnal	3	
Symantec PC Anywhere	10	406068
Diskeeper	7.0	WUDK7E-02480
ATI Display Driver	10-004	
3COM 905-TX-M driver	4.16.0.0	
Microsoft Internet Explorer	6	

CORAIL 2 Hardware and software

Quantity	Type	Slot	Company	Model	Serial number	From
1	Power Supply		Macron Power	MPT-301	2100742127	New
1	Motherboard		DFI	NB7003-0	D15120591	New
1	Pentium IV Processor 1,7ghz		Intel	BX80531NK170GSL5UG		New
1	256 MB RAM DDR					New
1	Video card	AGP	Xpert2000 pro 32M AGP	1025-B4030 00130	A205096504	New
1	CD-ROM 52X		LG	CRD-8521B	1BHF021154	New
1	IDE Removable drive drawer		Startech	SNT127A		New
1	Hard disk 40 GB		Western Digital	WD400BB-00CAA0	WMAD11473132	
1	Hard disk 40 GB ATA/100		Western Digital	WD400BB-00CAA0	WMA8H2428034	New
1	Floppy 3,5"					Corail2
1	Network card	PCI 4	3COM	3c905c-tx-m	her2daf579	Corail2

Software	Version	Licence
Microsoft Windows 2000 Professional Upgrade	2000	PQ34F-YWQG4-FT3K8-3PPTT-X7DCG
Service Pack for Windows 2000 Professionnal	2	
Service Pack for Windows 2000 Professionnal	3	
Diskeeper	7.0	WUDK7E-03729
ATI Display Driver	10-004	
3COM 905-TX-M driver	4.16.0.0	
Microsoft Internet Explorer	6	

AEI – Hardware and software

Quantity	Type	Slot	Company	Model	Serial number	From
1	Motherboard		Intel	CA63SN	IUS292008036AA720938-213	Corail3
1	Pentium III processor 550Mhz		Intel	PIII 550mhz	99170423-0083	Corail3
1	Hard disk 20GB ATA/100		Western Digital	WD200BB-75CAA0	WMA8J1373437	NEW
1	ISA card	ISA-2	N/A	dser-db9/t	1389	AEI
1	Network card	PCI-1	3COM	3C905c-TX-M	HSWR71A2C1	NEW
1	128MB RAM PC-100				48lc8m8a2	Corail3
1	Floppy 3.5"		Panasonic	30463	f1746	AEI
1	CD-ROM 52X		LG	CRD-8521B	1B4F021146	NEW
1	Video card	PCI	3D Charger	1024060600 512816	TS 8 13 05609	NEW
1	ISA card	ISA-1	ADT	ATIB	496	AEI
1	Power supply		Enermax	CN5134388	81220634	NEW
1	Casing		AOPEN			NEW

Software	Version	Licence
Microsoft Windows 2000 Professional Upgrade	2000	JFWH8-B74HF-MH34R-4GKQ8-F847H
Service Pack for Windows 2000 Professionnal	2	
Service Pack for Windows 2000 Professionnal	3	
Diskeeper	7.0	WDK7E-34088
3COM 905-TX-M driver	4.16.0.0	
Microsoft Internet Explorer	6	

Port of Montreal (POM)– Hardware and software

Quantity	Type	Slot	Company	Model	Serial number	From
1	Power Supply		Enermax	EG251P-V	80903651	Corail2
1	Motherboard		DFI	CA63-SN	JPCO11013Y	LICO2
1	256 Mb RAM PC-133					LICO2
1	Pentium III Processor 1 Ghz		Intel	BX80526C1000256SL5 B3	RK80526PZ001256	LICO2
1	Floppy		Mitsumi	D359M3D	400100 2B25CCO811	New
1	Network card	PCI 2	Allied Telesyn		1006	AEI
1	Video card	AGP	ATI	1024020520513879		Corail2
1	Hard disk 40 gb ATA/100		Western Digital	WD400BB	WMA8H2428177	New
1	IDE Removable drive drawer		Startech.com	SNT127A		New
1	Casing					Corail2

Software	Version	Licence
Microsoft Windows 2000 Professional	2000	R9HT8-9V7TT-FCPGQ-YG6D8-JW98Q
Service Pack for Windows 2000 Professionnal	2	
Service Pack for Windows 2000 Professionnal	3	

Hardware - Other

Left rack

Quantity	Type	Company	Model	Serial number
1	Smart-UPS	APC	SUA1500	ASO137130312
1	Management card	APC	AP9617	JA0202006040
1	Monitor	Compaq	V570	203BM26GC508
1	Mouse	Logitech	930732-040	LNA15248139
1	Switch for monitor	Starview	SV431D	NO311C120077
3	Cables for Starview switch	Starview	SVPS23N1_6	
1	8 ports switch	Centrecom	AT-FS708	B23981692B
3	Cables		CAT5	
1	Cable		CAT5E	
1	Keyboard	Digital	KB5923	9581400681

Right rack

Quantity	Type	Company	Model	Serial number
1	Smart-UPS	APC	SUA1500	
1	Management card	APC	AP9617	JA0211000924
1	Monitor	Compaq	V570	203BM26GC582
1	Mouse	Logitech	930732-040	LNA15248142
1	Switch	Starview	SV431D	NO311CH20128
3	Cables for Starview switch	Starview	SVPS23N1_6	
3	Cables		CAT5	
1	Cable		CAT5E	
1	Keyboard	Keytronic	E03600QEMJ	C940129020

APPENDIX E

Acceptance Tests Forms

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAN
2003-03-16	20 46 23	813		431	431	Timestamp

Visual Inspection C1	Visual Inspection C2	FoM Consist	Code C1	Code C2	FoM Match	Code C1 Match	Code C2 Match	Invalid C1	Invalid C2	Invalid	# image C1	# image C2
PONU4789090	PONU4789090	PONU4789090	PONU4789090	PONU4789090	1	1	1				13	11
PONU4743720	PONU4743720	PONU4743720	PONU474372%	PONU4743720	1	1	1				13	11
PONU4834115	PONU4834115	PONU4834115	POMU4834115	PONU4834115	1	0	1				18	15
SCZU4972487	SCZU4972487	SCZU4972487	SCZU49+87%%	SCZU4972487	1	0	1				18	15
PONU4863535	PONU4863535	PONU4863535	PONU4863535	PONU4863535	1	1	1				22	20
TRLU1941934	TRLU1941934	TRLU1941934	TRLU1941934	TRLU1941934	1	1	1				22	20
CNGU0008*2*	***********				0	0	0	1	1	1	28	26
MAEU5163287	MAEU5163287	MAEU5163287	AAEU5163287	MAEU5163287	1	0	1				28	26
PONU4849326	PONU4849326	PONU4849326	PONU4849326	PONU4849326	1	1	1				32	30
MSCU4268805	MSCU4268805	MSCU4268805	MSCU4268805	MSCU4268805	1	1	1				50	46
MSCU8997385	MSCU8997385	MSCU8997385	MSCU8997385	MSCU8997385	1	1	1				50	48
CLHU8009958	CLHU8009958	CLHU8009958	CLHU8009958	CLHU8009958	1	1	1				54	52
TRIU9328457	TRIU9328457	TRIU9328457	ORIU9328457	TRIU9326452	1	0	0				54	52
CAXU4712199	CAXU4712199	CAXU4712199	CAXU4712199	CAXU4712199	1	1	1				59	56
C*XU**72*3*	CAXU9672231	CAXU9672231		CAXU9672231	1	0	1	1			59	56
INBU5131070	IN*U513107*	INBU5131070	INBU5131070	INRU5131076	1	1	0		1		63	60
GSTU***6***	*STU**16*86	GSTU464967?		GSTU46496%%	0	0	0	1	1	1	63	60
MAEU6033375	MAEU6033375	MAEU6033375	MAEU6033375	MAEU60375%%	1	1	0				67	65
MAEU4527086	MAEU4527086	MAEU4527086	MAEU4527086	MAEU4527080	1	1	0				67	65
*NKU2294565	INKU2294565	INKU2294565	@NKU229456%	INKU2294565	1	0	1	1			73	70
TTNU479****	TTNU4794843	TTNU4794843		TTNU4794843	1	0	1	1			73	70
PONU1347221	PONU1347221	PONU1347221	PONU1347221	PONU1347221	1	1	1				77	74
APMU4535591	APMU4535591	APMU4535591	APAU4535591	APMU1535511	1	0	0				77	74
TTNU9947755	TTNU9947755	TTNU9947755	TTNU9947755	TTNU9947755	1	1	1				81	79
GATU8544946	GATU8544946	GATU8544946	GATU8544946	GATU8544946	1	1	1				81	79
TCKU9635512	TCKU9635512	TCKU9635512	TCKU9635512	TCKU9635512	1	1	1				85	83
SEAU8260179	S*AU8260179	SIAU8260176	SEAU8260177	SIAU8260179	0	0	0		1		85	83
SEAU85*9060	SEAU8599060	SEAU8599060	SEAU4599060	SEAU8599060	1	0	1	1			89	87
PONU1405539	PONU1405539	PONU1405539	PONU1405539	PONU1405539	1	1	1				89	87
TGHU7567884	TGHU7567884	TGHU7567884	TGHU7567884	TGHU7567884	1	1	1				94	92
POCU1066719	POCU1066719	POCU1066719	POCU1066719	POCU1066719	1	1	1				94	92
TRLU542*321	TRLU5423321	TRLU5423321	TRLU5422321	TRLU5423321	1	0	1	1			98	96
PONU7586007	PONU7586007	PONU7586007	PONU7586007	PONU7586007	1	1	1				98	96
MSKU8073349	MSKU8073349	MSKU8073349	MSKU8073349	MSKU8073349	1	1	1				103	100
GLDU0743434	GLDU0743434	GLDU0743434	GLOU0743434	GLDU0743434	1	0	1				103	100
CAXU4250418	CAXU4250418	CAXU4250418	CAXU4250418	CAXU4250413	1	1	0				107	105
ITLU5621443	ITLU5621443	ITLU5621443	ITLU5621443	@OLU5621443	1	1	0				107	105
POCU1149351	POCU1149351	POCU1149351	POCU1149351		1	1	0				111	109
		POCU1149351	ZCLU56133%%	POCU1149351	0	0	0	1	1	1		
TTNU9588341	TTNU9588341	TTNU9588341		TTHU9588341	1	0	0				111	109
PONU7150501	PONU7150501	PONU7150501	PONU7150501	PONU7150501	1	1	1				116	114
KNLU5090461	KNLU5090461	KNLU5090461	KNLU5090461	KNLU5090465	1	1	0				116	114
TRLU5539034	TRLU5539034	TRLU5539034	TRLU5539034	TRLU5539034	1	1	1				121	119
TRIU9925431	TRIU9925431	TRIU9925431	TRIU992543%	TRIU9925431	1	1	1				121	119
TGHU8023397	TGHU8023397	TGHU8023397	TGHU8023397	TGHU8023397	1	1	1				125	123
*OLU1556*8*	TOLU1556980	TOLU1556980	@OLU556986%	TOLU1556980	1	0	1	1			125	123
HLXU6722126	HLXU6722126	HLXU6722126	HLXU6722126	HLXU6722126	1	1	1				131	129
HLXU4090112	HLXU4090112	HLXU4090112	HLXU4090112	HLXU4090112	1	1	1				136	134
TTNU9072592	TTNU9072592	TTNU9072592	TTNU9072592	TTNU9072592	1	1	1				141	139
T*LU5256*36	TRLU5256836	TRLU5256836	TRLU52568%%	TRLU5256836	1	0	1	1			149	147
HLCU4685434	HLCU4685434	HLCU4685434	HLCU4685434		1	1	0				153	151
PONU7190470	PONU7190470	PONU7190470	PONU7190470	PONU7190490	1	1	0				157	154
HLXU6209176	HLXU6209176	HLXU6209176	HLXU6209176	HLXU6209176	1	1	1				161	159
HLCU40633*2	HLCU40633*2	HLCU4063322	HLCU4063572	HLCU4063392	0	0	0	1	1	1	165	163
PONU7627390	PONU7627390	PONU7627390	PONU7627390	PONU7627390	1	1	1				165	163
HLCU4275390	HLCU4275390	HLCU4275390	HLCU4275390	HLCU4275390	1	1	1				169	167
PONU7254450	PONU7254450	PONU7254450	PONU7254450	PONU7254450	1	1	1				169	167
MSCU8717437	MSCU8717437	MSCU8717437	MSCU8717437	MSCU8717437	1	1	1				173	171
GATU8123741	GATU81*3741	GATU8123741	GATU8123741	GAIU81+3741	1	1	0		1		173	171
NYKU5419880	NYKU*4*9880	NYMU5419880	NYMU5419880		0	0	0		1		177	175
PONU7650554	PONU7650554	PONU7650554	POMU7650554	PONU7650554	1	0	1				177	175
TRIU9750267	TRIU9750267	TRIU9750267	TRIU9750267	TRIU9750267	1	1	1				181	179
GATU8476179	GATU8476179	GATU8476179	GATU8476179	GATU8476179	1	1	1				181	179
HLXU4418963	HLXU4418963	HLXU4418963	HLXU4618961	HLXU4418963	1	0	1				186	183
CLHU4176026	CLHU4176026	CLHU4176026	CLHU4176026	CLHU4176026	1	1	1				194	192

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-16	20:46:25	813		431	431	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
PONU4789090	PONU4789090	PONU4789090	PONU4789090	PONU4789090	1	1	1				13	11
PONU4743720	PONU4743720	PONU4743720	PONU474372	PONU4743720	1	1	1				13	11
PONU4834115	PONU4834115	PONU4834115	POMU4834115	PONU4834115	1	0	1				18	15
SCZU4972487	SCZU4972487	SCZU4972487	SCZU49+87	SCZU4972487	1	0	1				18	15
PONU4863535	PONU4863535	PONU4863535	PONU4863535	PONU4863535	1	1	1				22	20
TRLU1941934	TRLU1941934	TRLU1941934	TRLU1941934	TRLU1941934	1	1	1				22	20
CNGU0008*2*	***********				0	0	0	1	1	1	28	26
MAEU5163287	MAEU5163287	MAEU5163287	AAEU5163287	MAEU5163287	1	0	1				28	26
PONU4849326	PONU4849326	PONU4849326	PONU4849326	PONU4849326	1	1	1				32	30
MSCU4268805	MSCU4268805	MSCU4268805	MSCU4268805	MSCU4268805	1	1	1				50	48
MSCU8997385	MSCU8997385	MSCU8997385	MSCU8997385	MSCU8997385	1	1	1				50	48
CLHU8009958	CLHU8009958	CLHU8009958	CLHU8009958	CLHU8009958	1	1	1				54	52
TRIU9328457	TRIU9328457	TRIU9328457	ORIU9328457	TRIU9326452	1	0	0				54	52
CAXU4712199	CAXU4712199	CAXU4712199	CAXU4712199	CAXU4712199	1	1	1				59	56
C*XU**72*3*	CAXU9672231	CAXU9672231		CAXU9672231	1	0	1	1			59	56
INBU5131070	IN*U513107*	INBU5131070	INBU5131070	INRU5131076	1	1	0		1		63	60
GSTU***6***	*STU**16*86	GSTU46496??		GSTU46496	0	0	0	1	1	1	63	60
MAEU6033375	MAEU6033375	MAEU6033375	MAEU6033375	MAEU60375	1	1	0				67	65
MAEU4527086	MAEU4527086	MAEU4527086	MAEU4527086	MAEU4527080	1	1	0				67	65
*NKU2294565	INKU2294565	INKU2294565	@NKU229456	INKU2294565	1	0	1	1			73	70
TTNU479****	TTNU4794843	TTNU4794843		TTNU4794843	1	0	1	1			73	70
PONU1347221	PONU1347221	PONU1347221	PONU1347221	PONU1347221	1	1	1				77	74
APMU4535591	APMU4535591	APMU4535591	APAU4535591	APMU1535511	1	0	0				77	74
TTNU9947755	TTNU9947755	TTNU9947755	TTNU9947755	TTNU9947755	1	1	1				81	79
GATU8544946	GATU8544946	GATU8544946	GATU8544946	GATU8544946	1	1	1				81	79
TCKU9635512	TCKU9635512	TCKU9635512	TCKU9635512	TCKU9635512	1	1	1				85	83
SEAU8260179	S*AU8260179	SIAU8260176	SEAU8260177	SIAU8260179	0	0	0		1		85	83
SEAU85*9060	SEAU8599060	SEAU8599060	SEAU4599060	SEAU8599060	1	0	1	1			[illegible]	87
PONU1405539	PONU1405539	PONU1405539	PONU1405539	PONU1405539	1	1	1				89	87
TGHU7567884	TGHU7567884	TGHU7567884	TGHU7567884	TGHU7567884	1	1	1				94	92
POCU1066719	POCU1066719	POCU1066719	POCU1066719	POCU1066719	1	1	1				94	92
TRLU542*321	TRLU5423321	TRLU5423321	TRLU5422321	TRLU5423321	1	0	1	1			98	96
PONU7586007	PONU7586007	PONU7586007	PONU7586007	PONU7586007	1	1	1				98	96
MSKU8073349	MSKU8073349	MSKU8073349	MSKU8073349	MSKU8073349	1	1	1				103	100
GLDU0743434	GLDU0743434	GLDU0743434	GLOU0743434	GLDU0743434	1	0	1				103	100
CAXU4250418	CAXU4250418	CAXU4250418	CAXU4250418	CAXU4250413	1	1	0				107	105
ITLU5621443	ITLU5621443	ITLU5621443	ITLU5621443	@OLU5621443	1	1	0				107	105
POCU1149351	POCU1149351	POCU1149351	POCU1149351		1	1	0				111	109
		POCU1149351	ZCLU56133	POCU1149351	0	0	0	1	1	1		
TTNU9588341	TTNU9588341	TTNU9588341		TTHU9588341	1	0	0				111	109
PONU7150501	PONU7150501	PONU7150501	PONU7150501	PONU7150501	1	1	1				116	114
KNLU5090461	KNLU5090461	KNLU5090461	KNLU5090461	KNLU5090465	1	1	0				116	114
TRLU5539034	TRLU5539034	TRLU5539034	TRLU5539034	TRLU5539034	1	1	1				121	119
TRIU9925431	TRIU9925431	TRIU9925431	TRIU992543	TRIU9925431	1	1	1				121	119
TGHU8023397	TGHU8023397	TGHU8023397	TGHU8023397	TGHU8023397	1	1	1				125	123
*OLU1556*8*	TOLU1556980	TOLU1556980	@OLU556986	TOLU1556980	1	0	1	1			125	123
HLXU6722126	HLXU6722126	HLXU6722126	HLXU6722126	HLXU6722126	1	1	1				131	129
HLXU4090112	HLXU4090112	HLXU4090112	HLXU4090112	HLXU4090112	1	1	1				136	134
TTNU9072592	TTNU9072592	TTNU9072592	TTNU9072592	TTNU9072592	1	1	1				141	139
T*LU5256*36	TRLU5256836	TRLU5256836	TRLU52568	TRLU5256836	1	0	1	1			149	147
HLCU4685434	HLCU4685434	HLCU4685434	HLCU4685434		1	1	0				153	151
PONU7190470	PONU7190470	PONU7190470	PONU7190470	PONU7190490	1	1	0				157	154
HLXU6209176	HLXU6209176	HLXU6209176	HLXU6209176	HLXU6209176	1	1	1				161	159
HLCU40633*2	HLCU40633*2	HLCU4063322	HLCU4063572	HLCU4063392	0	0	0	1	1	1	165	163
PONU7627390	PONU7627390	PONU7627390	PONU7627390	PONU7627390	1	1	1				165	163
HLCU4275390	HLCU4275390	HLCU4275390	HLCU4275390	HLCU4275390	1	1	1				169	167
PONU7254450	PONU7254450	PONU7254450	PONU7254450	PONU7254450	1	1	1				169	167
MSCU8717437	MSCU8717437	MSCU8717437	MSCU8717437	MSCU8717437	1	1	1				173	171
GATU8123741	GATU81*3741	GATU8123741	GATU8123741	GAIU81+3741	1	1	0		1		173	171
NYKU5419880	NYKU*4*9880	NYMU5419880	NYMU5419880		0	0	0		1		177	175
PONU7650554	PONU7650554	PONU7650554	POMU7650554	PONU7650554	1	0	1				177	175
TRIU9750267	TRIU9750267	TRIU9750267	TRIU9750267	TRIU9750267	1	1	1				181	179
GATU8476179	GATU8476179	GATU8476179	GATU8476179	GATU8476179	1	1	1				181	179
HLXU4418963	HLXU4418963	HLXU4418963	HLXU4618961	HLXU4418963	1	0	1				186	183
CLHU4176026	CLHU4176026	CLHU4176026	CLHU4176026	CLHU4176026	1	1	1				194	192

HLXU4353137	HLXU4353137	HLXU4353137	HLXU4353137	HLXU1353137	1	1	0				199	197
HLCU4615123	HLCU4615123	HLCU4615123	HLCU4615123	HLCU4615123	1	1	1				203	201
PONU7167422	PONU7167422	PONU7167422	PONU7167422	PONU7167422	1	1	1				206	204
GATU8499425	GATU8499425	GATU8499425	GATU8499425	GATU8499425	1	1	1				210	208
****4968677	****4968677				0	0	0	1	1	1	214	211
SCZU7199447	SCZU7199447	SCZU7994474	SCZU8944+71	SCZU799447%	0	0	0				217	216
MSCU1111113	MSCU1111113	MSCU11111??	MSCU11111%%		0	0	0				218	217
PONU7113262	PONU7113262	PONU7113262	PONU7113242	PONU7113262	1	0	1				218	216
PONU7632490	PONU7632490	PONU7632490	PONU7632496	POMU7632490	1	0	0				223	220
TTNU9255654	TTNU9255654	TTNU9255654	TTNU9255654	TTNU9255654	1	1	1				227	225
PO*U7*92485	PONU7492485	PONU7492485	POGU7992485	PONU7492485	1	0	1	1			230	228
PONU7199965	PONU7199965	PONU7199965	PONU7199965	PONU7199965	1	1	1				234	232
H**U202***3	HLCU2202943	ILCU2202946	@@IU3202649	ILCU2202943	0	0	0	1			237	236
KNLU3381196	KNLU3381196	KNLU3381196	KNLU3381196	KNLU3381196	1	1	1				238	237
PONU0182620	PONU0182620	PONU0182620	PONU0182620	PONU0182620	1	1	1				241	240
HLC*201*706	HLCU2012706	HLCU2092701	HLCU2012701	HLCU2072701	0	0	0	1			242	241
MSCU8158637	MSCU8158637	MSCU8158637	MSCU8158637	MSCU8158637	1	1	1				246	243
***********	*STU8647895	GSTU8647895		GSTU8647895	0	0	0	1	1		249	247
HLXU4511016	HLXU4511016	HLXU4511016	HLXU4511016	HLXU4511016	1	1	1				253	251
HLCU2154064	HLCU2154064	HLCU2154064	HLCU2154064	HLCU2154064	1	1	1				256	255
POCU0011141	POCU0011141	POCU0011141	POCU0011141	POCU0011141	1	1	1				257	256
MSCU8715347	MSCU8715347	MSCU8715347	MSCU871534%	MSCU871534%	1	1	1				269	266
GLDU0683398	GL*U0683398	GLOU0683391	GLOU0683398	@GLU0683398	0	0	0		1		277	275
HLCU2193245	HLCU2193245	HLCU2193245	HLCU2193245	HLCU2193245	1	1	1				281	280
POCU0552233	POCU0552233	POCU0552233	POCU0552233	POCU0552233	1	1	1				282	281
GATU8565635	GATU8565635	GATU8565635	GATU8565635	GATU8565635	1	1	1				282	280
POCU0145639	POCU0145639	POCU0145639	POCU0145639	POCU0145639	1	1	1				286	285
HLXU2257026	HLXU2257026	HLXU2257026	HLXU2257026	HLXU2257020	1	1	0				288	287
U6**7	GSTU8886307	GSTU8886307		GSTU8886307	1	0	1	1			288	285
PONU0192172	PONU0192172	PONU0192172	PONU0192172	PONU0192172	1	1	1				292	291
CRXU1017921	CRXU1017921	CRXU1017921	PRXU1017921	CRXU1017921	1	0	1				293	292
TTNU9255401	TTNU9255401	TTNU9255401	TTNU925540%	TTNU925540%	1	1	1				293	291
HLCU2602132	H*CU2*02132	HLCU2602132	HLCU2602132	H+CU2102137	1	1	0		1		297	296
HLCU2170656	HLCU2170656	HLCU2170656	HLCU2170656	HLCU2170696	1	1	0				298	297
GATU4315005	GATU4315005	GATU4315005	GATU4315005	GATU4315005	1	1	1				298	296
PONU0290604	PONU0290604	PONU0290604	PONU0290604	PONU0290604	1	1	1				302	301
TRIU3656968	TRIU3656968	TRIU3656968	TRIU3656968	TRIU3656968	1	1	1				304	303
***********	TRIU9951050	TRIU9951050		TRIU9951050	1	0	1	1			304	301
TTNU2144129	TTNU2144129	TTNU2144129	TTHU2144126	TTNU2144129	1	0	1				308	307
PONU0166260	PONU0166260	PONU0166260	PONU0166260	PONU0166260	1	1	1				309	308
TRLU546127*	TRLU5461276	TRLU5461276	TRLU5461278	TRLU5461276	1	0	1	1			309	307
HLXU3019254	HLXU3019254	HLXU3019254	ILVU3019254	HLXU3019254	1	0	1				313	312
INBU3883989	INBU3883989	INBU3883989	INBU3883989	INBU3883989	1	1	1				314	313
HLXU4529946	HLXU4529946	HLXU4529946	HLXU4529946	HLXU4529946	1	1	1				314	312
SISU2250620	SISU2250620	SISU2250620	SISU2250620	SISU2250620	1	1	1				318	317
POCU0340173	POCU0340173	POCU0340173	POLU0340110	POCU0340173	1	0	1				319	318
PONU7632648	PONU7632648	PONU7632648	PONU7632648	PONU7632648	1	1	1				323	321
TTNU937655*	TTNU9376553	TTNU9376553		TTNU9376553	1	0	1	1			323	321
KNLU5026570	KNLU*026570	KNLU5026570	KNLU5026570	KNLU6026570	1	1	0		1		327	325
HLXU4465965	HLXU4465965	HLXU4465965	HLXU4465965	HLXU4465965	1	1	1				327	325
PONU7608071	PONU7608071	PONU7608071	PONU7608027	PONU7608071	1	0	1				332	329
TGHU4502067	TGHU4502067	TGHU4502067		TGHU450206%	1	0	1				332	329
CAXU24183*0	CAXU2418360	CTXU2418368	@@XU24183%%	CXXU2418360	0	0	0	1			334	333
PONU0173085	PONU0173085	PONU0173085	PONU0173085	PONU0173085	1	1	1				335	335
HLXU4588743	HLXU4588743	HLXU4588743	HLXU4588743	HLXU4588743	1	1	1				335	333
TRIU2734691	TRIU273469*	TRIU2734691	TRIU2734691	TRIU273469%	1	1	1		1		339	338
SCZU*3828*1	SCZU7382801	SCZU7382801	SCZU7382801	SCZU7382801	1	1	1	1			340	340
PONU1600319	PONU1600319	PONU1600319	PONU1600319	PONU1600319	1	1	1				340	338
INBU303176*	INBU3031766	INBU3031766	INBU303176%	INBU3031766	1	1	1	1			344	343
TRLU2090633	TRLU2090633	TRLU2090633	TRLU2090633	TRLU2090633	1	1	1				346	345
HLXU6083576	HLXU6083576	HLXU6083576	HLXU6083576	HLXU6083576	1	1	1				346	343
MSCU1158173	MSCU1158173	MSCU1158173	MSCU1158173		1	1	0				351	350
		TTNU32584??	TTNU32584%%		0	0	0	1	1	1		
TTNU325849*	TTNU325849*	TTNU3258492		TTNU325849%	1	0	1	1	1		350	349
MAEU7350733	MAEU7350733	MAEU7350733	MAEU7350733	MAEU7350113	1	1	0				351	349
MSCU2342185	MSCU2342185	MSCU2342185	MSCU2342185	MSCU2342185	1	1	1				355	354
KNLU3399174	KNLU339917*	KNLU3399174	KNLU3399174	KNLU3399174	1	1	1		1		356	355
PONU7169209	PONU7169209	PONU7169209	PONU7169209	PONU7169209	1	1	1				356	354
JSSU0554049	JSSU0554049	JSSU0554049	JSSU0554049	JSSU0554049	1	1	1				360	359
TRIU1564266	TRIU1564266	TRIU1564266	TRIU1564264	TRIU1564266	1	0	1				361	360

GATU4005416	GATU4005416	GATU4005416	GATU4005416	GATU4005416	1	1	1				361	359
PONU7643730	PONU7643730	PONU7643730	PONU7643730	PONU7643730	1	1	1				366	364
PONU7150008	PONU715000*	PONU7150008	PONU7150008	PONU7150008	1	1	1		1		366	364
GATU8189461	GATU8189461	GATU8189461	UATU8189461	GATU8189461	1	0	1				370	368
HLXU6068102	HLXU6068102	HLXU6068102	HLKU6068102	HLXU6068102	1	0	1				370	368
PONU1425704	PONU1425704	OCZU5763???	OCZU5763%%%		0	0	0				383	371
POCU1008008	POCU1*08*08				0	0	0		1		383	371
CRXU9153360	CRXU9153360	CRXU9153360	LRXU9153361	CRXU9153360	1	0	1				386	384
HLXU6195283	HLXU6195283	HLXU6195283	HLXU6195283	HLXU6195283	1	1	1				389	387
HLXU4103230	HLXU4103230	HLXU4103230	HLXU4103230	HLXU4103230	1	1	1				393	391
HLCU4279693	HLCU427*693	HLCU4279693	HLCU4279693	HLCU7427969	1	1	0		1		393	391
HLCU4245878	HLCU4245878	HLCU4245878	HLCU4245876	HLCU4245878	1	1	1				397	395
CAXU4918153	CAXU4918153	CAXU4918153	CAXU4918153	CAXU4916159	1	1	0				397	395
PONU7486040	PONU7486040	PONU7486040	PONU7486040	PONU7486080	1	1	0				401	399
NYKU5420704	NYKU5420704	NYKU5420704	NYMU5420704	KYKU5420704	1	0	0				401	399
KNLU5030020	KNLU5030020	KNLU5030020	KNLU5030020	KNLU5030020	1	1	1				405	403
HLXU4133913	HLXU4133913	HLXU4133913	HLXU4133910	HLXU4133910	1	0	0				405	403
PONU7270087	PONU7270087	PONU7270087	POMU7270087	PONU7270087	1	0	1				409	407
KNLU5113720	KNLU5113720	KNLU5113720	KNLU5113720	KNLU5113720	1	1	1				409	407

Nb of containers	152	Match Code ID	137		
Nb Of Invalid	4	Match Code ID C1	100	Nb Of Invalid C1	23
Nb Of Valid	148	Match Code ID C2	111	Nb Of Invalid C2	18
Perfect match code	80				

	C1	C2	PoM	TOTAL
Accuracy :	77,52%	82,84%	92,57%	90,13%

DTI Representative

Date

Port of Montreal Representative

Date

The Crown as represented by the Gov Of Canada

Date

DTI Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAL
2003-03-17	17 27 02	819		223	223	imestamp - B

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
OCLU4186849	OCLU4186849	OCLU4186849	OCLU4186849	OCLU4186849	1	1	1				10	11
CAXU*190182	CAXU21901*2	CAXU2190182	COXU190182%	CAXU2190182	1	0	1	1	1		11	12
UXXU43*6*1*	UXXU4306018	UXXU4306018	UXXU4316615	UXXU4306018	1	0	1	1			10	12
PONU0354524	PONU0354524	PONU0354524	PONU0354524	PONU0354524	1	1	1				15	15
IEAU2838866	IEAU2838866	IEAU8388616	@EAU8388616	IEAU2838868	0	0	0				16	16
TRLU6324133	TRLU6324133	TRLU6324133	TRLU6324133	TRLU6324133	1	1	1				14	16
GSTU4562130	GSTU4562130	GSTU4562130	GSTU4562130	GSTU4562130	1	1	1				19	20
PO*U03492*5	POCU0349205	POCU0349205	POGU0349265	POCU0349205	1	0	1	1			20	21
MAEU8282891	MAEU8282891	MAEU8282891	MAEU8282891	MAEU8282891	1	1	1				19	21
PONU0726920	PONU0726920	PONU0726920	PONU0726920	POMU0726920	1	1	0				23	23
TRDU2823933	TRDU2823933	TRDU2823933	TROU2823933	TRDU2823933	1	0	1				25	26
GATU1087257	GATU1087257	GATU1087257	GATU1087257	GATU1087257	1	1	1				26	27
HLXU604612*	HLXU604*124	HLXU6046124	HLXU604612%	HLXU6048124	1	0	1	1	1		48	50
NDLU4000889	NDLU4000889	NDLU4000889	NDLU4000889	NDLU4000889	1	1	1				51	53
HLC*425*177	HLCU4255177	HLCU4255177	LCFU25217+5	HLCU4255172	1	0	0	1			54	56
HLXU4076290	HLXU4076290	HLXU5407623	HLXU5407629		0	0	0				57	59
OOLU7061999	OOLU7061999	OOLU7061999	OOLU7061999	OOLU7061999	1	1	1				61	63
HLXU4142290	HLXU4142290	HLXU4142290	HLXU4142290	HLXU4142290	1	1	1				61	63
HLXU4106250	HLXU4106250	HLXU4106250	HLXU4106250	HLXU4106250	1	1	1				65	67
HLCU4236686	HLCU4236686	HLCU4236686	HLCU4236686	HLCU4236686	1	1	1				68	70
HLXU4263413	HLXU4263413	HLXU4263413	HLXU426341%	HLXU4263413	1	1	1				71	73
OOLU7002487	OOLU7002487	OOLU7002487	OOLU7002487	OOLU7002487	1	1	1				74	76
TRIU4942797	TRIU4942797	TRIU4942797	TRIU4942797	IR+U4942797	1	1	0				77	79
OOLU5340530	OOLU5340530	OOLU5340530	OOLU5340530	OOLU5340530	1	1	1				81	83
OOLU5087783	OOLU5087783	OOLU5087783	OOLU5087783	OOLU5087783	1	1	1				85	87
OOLU5065172	OOLU5065172	OOLU5065172		OOLU5065172	1	0	1				88	90
OOLU5224171	OOLU5224171	OOLU5224171	OOLU5224171	OOLU5224171	1	1	1				92	93
OOLU7017574	OOLU7017574	OOLU7017574	OOLU7017574	OOLU7017574	1	1	1				95	97
*OLU*710996	OOLU5710996	OOLU5710996	BOUU5700994	OOLU5710996	1	0	1	1			99	101
OOLU5789352	OOLU5789352	OOLU5789352	OOLU5789352	OOLU5789352	1	1	1				102	104
OOLU5503690	OOLU5503690	OOLU5503690	LOLU3550369	OOLU5503690	1	0	1				105	107
OOLU7155300	OOLU7155300	OOLU7155300	OOLU7155300	OOLU7155300	1	1	1				108	110
OOLU5590967	OOLU5590967	OOLU5590967	OOLU5590967	OOLU5590967	1	1	1				112	113
MSCU8907458	MSCU8907458	MSCU8907458	MSCU8907458	MSCU8907%%%	1	1	0				116	117
TPHU5373825	TPHU5373825	TPHU5373825	TPHU5373875	TPHU5373825	1	0	1				116	117
TRLU4750490	TRLU4750490	TRLU4750490	TRLU4750490	TRLU4750490	1	1	1				120	121
PONU7157574	PONU7157574	PONU7157574	PONU7157574	PONU7157574	1	1	1				120	121
TRLU4341255	TRLU4341255	TRLU4341255	TRLU4341255	TRLU4341255	1	1	1				124	125
PONU7271993	PONU7271993	PONU7271993	PONU7271993	PONU7271993	1	1	1				124	125
MSCU8280882	MSCU8280882	MSCU8280882	MSCU8280882	MSCU8280882	1	1	1				128	130
NYKU6553189	NYKU6553189	NYKU6553189	NYKU6553189	NYKU6553189	1	1	1				128	130
GSTU6328292	GSTU6328292	GSTU6328292	GSTU6328292	GSTU6328292	1	1	1				131	133
TEXU5580913	TEXU5580913	TEXU5580913	BSUU9068%%%	TEXU558091%	1	0	1				131	133
CRXU4466485	CRXU4466485	CRXU4466485	CRXU4466485	CRXU4466485	1	1	1				135	136
SEAU8507865	SEAU8507865	SEAU8567864	SEAU8567865	SEAU8507867	0	0	0				135	136
MSCU4064400	MSCU4064400	MSCU4064400	MSCU4064400	MSCU4064400	1	1	1				138	140
MSCU8225885	MSCU8225885	MSCU8225885	MSCU8225885	MSCU8225885	1	1	1				138	140
TRLU4015578	TRLU4015578	TRLU4015578	TRLU4015578	TRLU4015578	1	1	1				141	143
T*IU***7179	*RIU9827179	TRIU9827179	I+IU9427179	TRIU9827179	1	0	1	1	1		141	143
TRLU4319014	TRLU4319014	TRLU4319014	TRLU4319014	TRLU4319014	1	1	1				145	147
MSCU4008840	MSCU4008840	MSCU4008840	MSCU4008840	MSCU4008840	1	1	1				149	151
MAEU6382464	MAEU6382464	MAEU6382464	MAEU6382464	MAEU6382464	1	1	1				152	154
CRXU4567829	CRXU4567829	CRXU4567829	CRXU4567829	CRXU4567829	1	1	1				155	157
SEAU8450862	SEAU8450862	SEAU8450862	SEAU8450862	SEAU845096%	1	1	0				159	161
PONU1266393	PONU1266393	PONU1266393	POMU1266393	PONU1266393	1	0	1				162	164
PONU7544758	PONU7544758	PONU7544758	PONU7544758	PONU7544758	1	1	1				165	167
***********	CAXU9914422	CAXU9914422		CAXU9914422	1	0	1	1			168	170
MSKU8258281	MSKU8258281	MSKU8258281	MSKU8258281	MSKU8258281	1	1	1				172	174
GLDU0555519	GLDU0555519	GLOU0555512	GLOU0555519	GLOU0555519	0	0	0				176	178
GLDU0415374	GLDU0415374	GLOU0415378	GLOU0415374	GLOU0415374	0	0	0				180	182
GLDU0966335	GLDU0966335	GLDU0966335	GLDU0966335	GLOU0966335	1	1	0				180	182
IN*U521542*	*NBU521542*	INBU5215422	INGU5215422	@NBU5215422	1	0	0	1	1		185	187
*C**1**483*	OCLU1364839	OCLU1364839	OCLU1364839	OCLU1361839	1	1	0	1			185	187
GSTU7378317	GSTU7378317	GSTU7378317	GSTU7378317	GSTU7378317	1	1	1				188	190
***********	GSTU9556104	GSTU9556104		GSTU9556104	1	0	1	1			188	190

PONU7192826	PONU7192826	PONU7192826	PONU7192826	PONU7192876	1	1	0				192	194
PONU14*3846	PONU1423846	PONU1423846	PONU14+3846	PONU1423846	1	1	1	1			192	194
CLHU4047461	CLHU4047461	CLHU4047461	CLHU4047461	CLHU4047461	1	1	1				195	197
***********	***********				0	0	0	1	1	1	195	197
TRIU5615037	TRIU5615037	TRIU5615037	TRIU5615037	TRIU5615037	1	1	1				199	201
GATU8385844	GATU8385844	GATU8385844	GATU8385844	GATU8385844	1	1	1				199	201
PONU1472835,	PONU1472835	PONU1472835	PONU1472835	PONU1472835	1	1	1				203	205
INKU6157410 ,	INKU6157410	INKU6157410	IWXU6157%%%	INKU6157410	1	0	1				203	205
MSCU4309186	MSCU4309186	MSCU4309186	MSCU4309186	MSCU4309186	1	1	1				207	209
MSCU8810827	M*CU8810827	MSCU8810827	USCU8810827	MGCU8810827	1	0	0		1		207	209
MSCU4114374	MSCU411437*	MSCU4114374		MSCU411437%	1	0	1		1		211	213
GLDU0689863	GLDU0689863	GLOU0689867	GLOU0889882	GLOU0689863	0	0	0				211	213
PONU7343270	PONU7343270	PONU7343270	POWU7343270	PONU7343270	1	0	1				216	218
PONU7435783	***********	PONU7435783	PONU7435783	HLXU4076290	1	1	0		1		219	220

Nb. of containers	79	Match Code ID	72		
Nb. Of Invalid	1	Match Code ID C1	52	Nb. Of Invalid C1	13
Nb. Of Valid	78	Match Code ID C2	61	Nb. Of Invalid C2	8
Perfect match code	44				

	C1	C2	PoM	TOTAL
Accuracy :	78,79%	85,92%	92,31%	91,14%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown, as represented by the Gov. Of Canada — Date

DTI

Acceptance Tests Form

DATE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2003-03-18	05:42:01	826		383	383	Timestamp

Visual Inspection C1	Visual Inspection C2	HVM [illegible]	Code ID C1	Code ID C2	HVM Match	Code ID C1 Match	Code ID C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
MSKU2526788	MSKU2526788	MSKU2526788	MSKU2526788	MSKU2526788	1	1	1				12	10
MSKU2401292	MSKU2401292	MSKU2401292	MSKU2401292	MSKU2401292	1	1	1				13	12
TGHU7054264	TGHU7054264	TGHU7054264	TGHU7054264	TGHU7054264	1	1	1				13	10
CRXU1176646	CRXU1176646	CRXU1176646	CRXU1176648	CRXU1176648	1	0	0				17	16
TRIU2912643	TRIU2912643	TRIU2912643	TRIU2912643	TRIU2912640	1	1	0				18	17
***********	ITLU5516638	ITLU5516638		ITLU5516638	1	0	1	1			18	16
MAEU6761025	MAEU6761025	MAEU6761025	MAEU6761025	MAEU6761025	1	1	1				22	21
INBU3906678	INBU3906678	INBU3906678	INBU3906678	INBU3906678	1	1	1				23	22
SEAU8579593	SEAU857*593	SEAU8572599	SEAU8579593	SEAU8572593	0	1	0		1		23	21
SEAU2176796	SEAU2176796	SEAU2176796	SEAU2176796	SEAU2176796	1	1	1				27	26
MSKU2049495	MSKU2049495	MSKU2049495	MSKU2296880	MSKU2049495	1	0	1				29	28
GESU4511451	GESU4511451	GESU1914617	GESU1511451	GESU191461%	0	0	0				29	26
TRIU1501231	TRIU1501231	TRIU1501231	TRIU1501230	TRIU1501231	1	0	1				33	33
MSKU2296880	MSKU2296880	MSKU2296880		MSKU2296880	1	0	1				32	31
ICSU697163*	ICSU6971639	ICSU6971639	ICSU6971639	ICSU6971639	1	1	1	1			33	31
CLHU8337303	CLHU8337303	CLHU8337303	CLHU8337303	CLHU8337303	1	1	1				37	35
OCLU1380188	OCLU1380188	OCLU1380188	OCLU1380188	OCLU1380188	1	1	1				37	35
PONU7170895	PONU7170895	PONU7170895	PONU7170895	PONU7170895	1	1	1				41	39
MAEU4521750	MAEU4521750	MAEU4521750	MAEU4521750	MAEU4521750	1	1	1				46	43
PONU7534148	PONU7534148	PONU7534148	PONU7534148	PONU7534148	1	1	1				46	43
UESU4555577	UESU4555577	UESU4555577	UESU4555577	UESU4555577	1	1	1				49	47
MAEU8305955	MAEU*305*55	MAEU8305554	MAEU830555%	UUU%%%9309	0	0	0		1		49	47
SCMU2028163	SCMU2028163	SCMU2028163	SCMU2028163	SCFU2028163	1	1	0				53	52
AMFU3015760	AMFU3015760	AMFU3015760	AMFU3015760	AMFU3015760	1	1	1				54	54
TRLU5505775	TRLU5505775	TRLU5505775	TRLU5505775	TRLU5505775	1	1	1				54	52
GSTU3329654	GSTU3329654	GSTU3329654	GSTU3329654	GSTU3329654	1	1	1				58	57
MSKU2334358	MSKU2334358	MSKU2334358	MSKU2334358	MSKU2334358	1	1	1				59	59
NYKU6050646	NYKU6050646	NYKU6050646	NYKU6050646	NYKU6050645	1	1	0				59	57
SAMU2202979	SAMU2202979	SAMU2202979	SAMU2202979	SAMU2202979	1	1	1				63	62
MSKU2592244	MSKU2592244	MSKU2592244	MSKU2592244	MSKU2592244	1	1	1				64	63
U7***	GSTU9417752	GSTU9417752		GSTU9417752	1	0	1	1			64	62
GATU0407551	GATU0407551	GATU0407551	GATU0407551	GATU0407551	1	1	1				68	67
TTNU2581387	TTNU2581387	TTNU2581387	TTNU2581387	TTNU2581387	1	1	1				69	69
U**4*	CAXU994166*	CAXU99416??		CAXU99416%%	0	0	0	1	1	1	69	67
TTNU2859478	TTNU2859478	TTNU2859478	TTNU2859470	TTNU2859478	1	0	1				73	72
MSKU2604520	MSKU2604520	MSKU2604520	MSKU2604520	MSKU2604520	1	1	1				74	73
OCLU1312408	OCLU131*4*8				0	0	0		1		79	77
FLXU4008714	FLXU400871*	FLXU4008714	FLXU400871%	FLXU400871%	1	1	1		1		84	81
INKU*2*8422	INKU2208422	INKU2208422	INIU2208422	INKU2208422	1	0	1	1			88	85
*STU*009290	*STU5009*90	GSTU5009290	CSTU009290%	GSTU5009290	0	0	0	1	1		91	90
TTNU28845**	TTNU288454*	TTNU2884547	TTNU28845%%	TTNU288454%	0	0	0	1	1		92	91
KNLU3382309	KNLU3382309	KNLU3382309	KHLU3382309	KNLU3382309	1	0	1				95	94
CAXU2039089	CAXU2039089	CAXU2039089	CAXU2039989	CAXU2039089	1	0	1				96	95
TRIU9683256	TRIU968325*	TRIU9683256	TMIU9683256	TRIU9683256	1	0	1		1		100	98
*LCU415*522	MLCU4154522	MLCU4154522	ILCU4158322	MLCU4154522	1	0	1	1			104	102
TTNU9225222	TTNU9225222	TTNU9225222	TTNU9225222	TTNU9225222	1	1	1				108	106
TTNU9592613	TTNU9592613	TTNU9592613	TTNU9592613	TTNU9592613	1	1	1				112	109
SCMU4305246	SCMU4305246	SCMU4305246	SCMU4305246	SCMU4305246	1	1	1				115	113
PONU0130714	PONU0130714	PONU0130714	PONU0130774	PONU0130714	1	0	1				119	118
MSCU2371028	MSCU2371028	MSCU2371028	MSCU2371028	MSCU2371028	1	1	1				120	119
PONU1451257	PONU1451257	PONU1451257	PONU1451257	PONU1451257	1	1	1				124	122
NYKU2487129	NYKU2487129	NYKU2487129	NYKU2487129	NYKU2487129	1	1	1				128	127
TTNU27271**	TTNU27271**	TTNU27271??	TTNU27271%%	TTNU27271%%	0	0	0	1	1	1	129	128
GLDU0709928	GLDU0709928	GLDU0709928	GLDU0709928	GLDU0709928	1	1	1				129	127
CRXU1774144	CRXU1774144	CRXU1774144	CRXU1774144	CRXU1774144	1	1	1				133	132
MSKU2049284	MSKU2049284	MSKU2049284	MSKU2049+84	MSKU2049284	1	1	1				134	133
KNLU5128891	KNLU5128891	KNLU5128891	KNLU5121189	KNLU5128891	1	0	1				134	132
WFHU1175548	WFHU1175548	WFHU1175548	WFHU1175568	WFHU1175548	1	0	1				138	137
GLDU0337939	*LDU*337939	GLDU0337939	GLOU0337939	SLDU9337939	1	0	0		1		140	139
TRLU5879707	TRLU5879707	TRLU5879707	TRLU587970%	TRLU5879707	1	1	1				140	137
MLCU3208809	ML*U3208809	MLCU3208809	MLCU3208809	MLCU3208809	1	1	1		1		143	142
MSKU2088887	MSKU2088887	MSKU2088867	MSKU208888*	MSKU208+887	1	1	1				145	144
INBU5114345	INBU5114345	INBU5114???		INBU5114%%%	0	0	0				145	142
MSKU2034685	MSKU2034685	MSKU2034685	@SKU2034685	MSKU2034685	1	1	1				149	148
UXXU2454886	UXXU2454886	UXXU2454886	UXXU2454886	UXXU2454886	1	1	1				150	149

GATU0980033	GATU0980033	GATU0980033	GATU0980033	GATU0980033	1	1	1				154	153
MSKU2068480	MSKU2068480	MSKU2068480	MSKU2068480	MSKU2068480	1	1	1				156	155
APMU2725416	APM*2725416	APMU2725416	APMU2726416	APWU2725416	1	0	0	1			160	159
MSKU2282022	MSKU2282022	MSKU2282022	MSKU2282022	MSKU2282022	1	1	1				161	160
SEAU84*7545	SEAU84*754*	SEAU9487547	SEAU8497541	SEAU948754%	0	0	0	1	1	1	166	164
MAEU8182911	MAEU81829*1	MAEU8182911	MAEU8182911	MAEU8182911	1	1	1		1		171	169
MSKU8051139	*SKU8051139	MSKU8051139	MSKU8051139	MSKU8051139	1	1	1		1		175	173
*LU6799614	************	IFLU6799617	IFLU6799614		0	0	0	1	1	1	178	177
MSCU2804874	MSCU2804874	MSCU2804874	MSCU2804874		1	1	0				179	179
TTNU9055574	TTNU9055574	TTNU9055574	TTNU9055574	TTMU9055574	1	1	0				184	182
****9639544	TCKU9639544	TCKU9639544		TCKU9639544	1	0	1	1			188	186
MAEU8300552	MAEU8300552	ZFIU8306559	MAEU8300562	ZFIU830655%	0	0	0				192	189
MSCU4074348	MSCU4074348	MSCU4074348	MSCU4074348	MSCU4074348	1	1	1				195	193
MSCU1052860	MSCU1052860	MSCU1052860	MSCU1052860		1	1	0				200	199
		MSCU1052860		MSCU1052860	0	0	0	1	1	1		
MSCU1857822	MSCU1857822	MSCU1857822	MSCU1857822	MSCU1857822	1	1	1				198	197
KNLU5072792	KNLU5072792	KNLU5072792	KNLU5072792	KMLU5072792	1	1	0				204	201
TGHU7980476	TGHU7980476	TGHU7980476	TGHU7980476	CT@U3303122	1	1	0				208	205
MWCU6096514	MWCU6096514	MWCU6096514	UUCU6096510	MWCU6096514	1	0	1				211	209
MAEU5722889	MAEU5722889	MAEU5722889	MAEU5722889	MAEU5722889	1	1	1				215	213
MAEU5153416	MAEU5153416	MAEU5153416	IIIU5153416	MAEU5153416	1	0	1				220	217
MWCU6632495	MWCU6632495	MWCU6632495	MJCU6632495	UUCU6632495	1	0	0				220	217
MAEU5817520	MAEU5817520	MAEU5817520	MAEU5817520	IAEU5817520	1	1	0				225	223
MWCU6517526	MWCU*517526	MWCU6517526	UUCU6517526	MUCU6517526	1	0	0		1		225	223
MWCU6194655	MWCU6194655	MWCU6194655	VUCU6194655	VUCU6194655	1	0	0				231	228
MAEU5837975	MAEU5837975	MAEU5837975	IAEU5837975	MAEU5837975	1	0	1				231	228
************	CNG*00086**	RIIU0121664		RIIU012166%	0	0	0	1	1	1	236	234
TRIU8529760	TRIU8529760	TRIU8529760	TRIU0529760	IRIU8529760	1	0	0				236	234
CRLU5189916	CRLU5189916	CRLU5189916	CRLU5189916	CRLU5189911	1	1	0				241	239
MAEU5777599	MAEU5777599	MAEU5777599	OAEU5777599	MAEU5777599	1	0	1				241	239
MAEU5767013	MAEU5767013	MAEU5767013	MAEU5767013	MAEU5767011	1	1	0				246	243
MAEU5760169	MAEU5760169	MAEU5760169	MAEU5760169	MAEU5760169	1	1	1				246	243
MAEU6998085	MAEU6998085	MAEU6998085	MAEU6998085	MAEU699808%	1	1	0				250	248
GSTU3313278	GSTU3313278	GSTU3313278	GSTU3313278	GSIU3313278	1	1	0				251	250
SEAU4283601	SEAU4283601	SEAU4283601	SEAU4283601	SEAU4283601	1	1	1				263	261
MSCU2106256	MSCU2106256	MSCU2106256	MSCU2801772	MSCU2106256	1	0	1				265	264
MSCU2801772	MSCU2801772	MSCU2801772	JAEU7869478	MSCU2801772	1	0	1				267	266
TGHU2541819	TGHU2541819	TGHU2541819	TGHU2541819	TGHU2541819	1	1	1				269	268
MAEU7869478	MAEU7869478	MAEU7869478		JAEU7869478	1	0	0				271	270
TCKU9434610	TCKU9434610	TCKU9434610	TCKU9434610	TCKU9434610	1	1	1				274	272
DAYU6101064	DAYU6101064	DAYU6101064	DAYU6101064	DAYU6101064	1	1	1				278	276
SEAU8598042	SEAU85*8042	SEAU5980405	SEAU8598040	SEAU598040%	0	0	0		1		281	279
KNLU3326440	KNLU3326440	KNLU3326440	KNLU3326440		1	1	0				286	284
GATU0529436	GATU0529436	GATU0529436	GATU0529436	GATU0529436	1	1	1				284	283
KNLU3326440	KNLU3326440	KNLU3326440	GSTU2675950	KNLU3326440	1	0	1				286	284
UXXU223945*	UXXU2239456	UXXU2239456	UXXU2239451	UXXU2239456	1	0	1	1			290	289
GSTU2675950	GSTU2675950	GSTU2675950		GSTU267595%	1	0	1				289	288
POCU0143045	POCU0143045	POCU0143045	PDCU0143045		1	0	0				294	293
MAEU6980168	MAEU6980168	MAEU6980168	MAEU6980168	KAEU6980168	1	1	0				295	294
TTNU4735990	TTNU4735990	TTNU4735990	TTNU473599%	TTIU4735990	1	1	0				295	283
MSCU1834766	MSCU1834766	MSCU1834766	MSCU1834766	MSCU1834766	1	1	1				298	297
MAEU6763964	MAEU6763964	MAEU6763964	RAEU6763961	MAEU676396%	1	0	1				300	298
GLDU0914455	GLDU0914455	GLOU0914459	GLOU0914455	GLOU0914455	0	0	0				300	297
HLXU2227171	HLXU2227171	HLXU2227171	HLXU2227171	HLXU2227171	1	1	1				303	302
HLXU2335047	HLXU2335047	HLXU2335047	HLXU2335047	HLXU2335047	1	1	1				305	304
TTNU9924580	TTNU9924580	TTNU9924580	TTNU9924580	TTNU9928580	1	1	0				305	302
MSCU1307657	MSCU1307657	MSCU1307657	MSCU1307657	@SCU1307657	1	1	1				309	308
*****2996764	*****2996764	ZZIU6822108		ZZIU682210%	0	0	0	1	1	1	310	309
TPHU5128160	TPHU5128160	TPHU5128160	TPHU5128160	TPHU5128160	1	1	1				310	208
************	CMBU237*697	NTIU1615016	NTIU1615015	CMBU469+17%	0	0	0	1	1	1	314	313
MSKU2395250	MSKU2395250	MSKU2395250	MSKU2395250	MSKU2395250	1	1	1				315	314
MSKU8177560	MSKU8177560	MSKU8177560	MSKU8177560	MSKU8177560	1	1	1				315	313
MSKU2532796	MSKU2532796	MSKU2532796	MSKU2532796	MSLU2532796	1	1	0				319	318
*****2079707	*****2079707	?LZU7970???		*LZU79707%%	0	0	0	1	1	1	320	320
TGHU7266005	TGHU7266005	TGHU7266005	TGHU7266005	TGHU7266005	1	1	1				320	318
CLHU2064768	CLHU2064*68	CLHU2064768	CIHU2064768	CLHU2064+68	1	0	1		1		324	323
CRXU1767187	CRXU1767187	CRXU1767187	CRXU1767187	CRXU176718%	1	1	1				326	325
INBU5175649	INBU5175649	INBU5175649	INBU5175649	INBU5175649	1	1	1				326	323
CRXU1611553	CRXU1611553	CRXU1611553	OCLU7551014	CRXU1611553	1	0	1				331	330
MSKU2398820	MSKU2398820	NLSU2398820		NISU2398820	0	0	0				329	327

MSCU2440129	MSCU2440129	MSCU2440129		MSCU2440129	1	0	1				330	329
OCLU7551014	OCLU7551014	OCLU7551014		OCLU7551014	1	0	1				333	332
HLXU4311131	HLXU4311131	HLXU4311131	HLXU1431113	ILKU4311131	1	0	0				338	335
HLCU4066065	HLCU4066065	HLCU4066065	HLCU4066065	HLCU9666%%%	1	1	0				338	335
HLXU4267337	HLXU4267337	HLXU4267337	HLXU4267337	HLXU4267337	1	1	1				342	340
HLXU4055615	HLXU4055615	HLXU4405565	HLXU4055615	HLXU4405565	0	1	0				342	340
HLXU4051944	HLXU4051944	HLXU4051944	HLXU4051944	HLXU4051941	1	1	0				346	344
HLXU4122713	HLXU4122713	HLXU4122713	HLXU4122713	HLXU4122713	1	1	1				346	344
HLCU42*5551	HLCU4285551	HLCU4285551	LBZU65540%%	HLCU4285551	1	0	1	1			351	348
HLCU4226245	HLCU422624*	HLCU4226245	MLCU4226245	HLCU2422624	1	0	0		1		351	348
HLXU4003843	HLXU4003843	HLXU4003843	MLXU1400384	HLXU4003843	1	0	1				355	353
HLCU4279800	HLCU427980*	HLCU4279800	HLCU4279800	HLCU4279800	1	1	1		1		355	353
EXFU1899565	EXFU1899565	EXFU1899159	EXFU1899156		0	0	0				361	359
FSCU3575420	FSCU3575420	FSCU3575420	FSCU3575420	F+CU3575420	1	1	1				359	358
TCKU9523066	TCKU9523066	TCKU9523066	TCKU9523066	TCKU9523066	1	1	1				367	364
MSKU8349083	MSKU8349083	MSKU8349083	MSKU8349083	MSKU8349083	1	1	1				373	370

Nb of containers	149	Match Code ID	129		
Nb Of Invalid	8	Match Code ID C1	89	Nb Of Invalid C1	19
Nb Of Valid	141	Match Code ID C2	98	Nb Of Invalid C2	24
Perfect match code	67				

	C1	C2	PoM	TOTAL
Accuracy	68,46%	78,40%	91,49%	86,58%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown, as represented by the Gov. Of Canada — Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-18	14 42 40	828		382	382	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID C1 Match	Code ID C2 Match	Invalid C1	Invalid C2	Invalid	# image C1	# image C2
SEAU8591726	SEAU8591726	SEAU8591726	SEAU8591726	SEAU859172%	1	1	1				16	13
MAEU8243961	MAEU8243961	MAEU8243961	IAEU8243961	MAEU8243961	1	0	1				16	13
MAEU8131452	MAEU8131452	MAEU8131452	MAEU8131452	MAEU8131452	1	1	1				21	18
TRLU5331930	TRLU5331930	TRLU5331930	TRLU5331930	TRLU5331930	1	1	1				21	18
TRLU5289146	TRLU5289146	TRLU5289146	TRLU5289146	TRLU5289146	1	1	1				26	24
GLDU0723227	GLDU0723227	GLDU0723227	GLDU0723227	GLOU0723227	1	1	0				26	24
MSKU2050578	MSKU2050578	MSKU2050578	MSKU2050578	ICSU439070%	1	1	0				31	30
ICSU4390764	ICSU439*764	MSKU2050578	ICSU4390763	MSKU2050578	0	0	0		1		30	29
IEAU4519512	IEAU4519512	IEAU4519512	IEAU4519512	IEAU4519512	1	1	1				31	29
MSKU2088526	MSKU2088526	MSKU2088526	MSKU2088526	MSKU2088526	1	1	1				35	33
APMU2740745	APMU2740745	APMU2740745	AP@U2740745	APMU2740745	1	1	1				36	35
*SKU6172506	*SKU*172*06	MSKU6172506	NSKU6172506	VSKU172+06%	0	0	0	1	1		36	33
TTNU9564381	TTNU956438*	TTNU9564381	TTNU956438%	TTNU956438%	1	1	1		1		41	39
POCU7024578	POCU7024578	POCU7024578	POCU7024578	POCU7024578	1	1	1				41	39
MSCU831681*	MSCU831681*	MSCU8316814	NSCU831681%	MSCU831681%	1	0	1	1	1		46	43
*ONU3020602	PONU3020602	PONU3020602	@ONU3020602	PONU302060%	1	1	1	1			46	43
ICSU1851116	ICSU1851116	ICSU1851116	ILSU054310%	ICSU1851116	1	0	1				50	48
MAEU6092824	MAEU6092824	MAEU6092824	MAEU6092824	MAEU6092824	1	1	1				50	48
MSKU2590262	MSKU2590262	MSKU2590262	MSKU2590262	MSKU2590262	1	1	1				54	53
GLDU0241842	GLDU0241842	GLDU0241842	GLOU0241842	GLDU0241842	1	0	1				55	54
TCKU9514737	TCKU9514737	TCKU9514737	TCKU9514737	TCKU9514730	1	1	0				55	53
CRXU1196391	CRXU1196391	CRXU1196391	CRXU1864905	CRXU1196391	1	0	1				60	58
CRXU1864905	CRXU1864905	CRXU1864905	CRXU1196391	CRXU1864905	1	0	1				61	60
OCLU1492676	OCLU1492676	OCLU1492676	OCLU1492676	OCLU1492676	1	1	1				61	58
*STU*863500	GSTU2863500	GSTU2863500	GSTU2863500	CSTU863500%	1	0	0	1			64	63
CLHU2606637	CLHU2606637	CLHU2606637	CLHU2606637	CLHU2606637	1	1	1				65	65
PONU7564482	PONU7564482	PONU7564482	PONU7564482	PONU7564482	1	1	1				65	63
MSCU1057959	MSCU1057959	MSCU1057959	MSCU1057859	MSCU1057959	1	0	1				69	68
CAXU254703*	CAXU2547032	CAXU2547032	CAXU2547032	CAXU2547037	1	1	0	1			70	70
CRXU4854388	CRXU4854388	CRXU4854388	CRXU4854388	CRXU4854388	1	1	1				70	68
MSKU2374920	MSKU2374920	MSKU2374920	MSKU2374920	MSKU2374920	1	1	1				74	73
SC*U2077851	SC*U2077851	SCHU2077850	SCHU2077850	SC+U2077851	0	0	0	1	1	1	75	74
PONU7654631	PONU7654631	PONU7654631	PONU7654631	PONU7654631	1	1	1				75	73
*A*U2*285*7	SAMU2228567	SAMU2228567	SAMU2228560	SAMU2228567	1	0	1	1			79	78
MSCU2151790	MSCU2151790	MSCU2151790	MSCU2151790	MSCU2151790	1	1	1				80	79
KNLU5022066	KNLU5022066	KNLU5022066	KNLU5022066	KNLU5022066	1	1	1				80	78
MAEU6148055	MAEU6148055	SLJU6148052	AAEU8614805	SLJU6148055	0	0	0				86	83
TTNU91827*8	TTNU9182748	TTNU9182748	TTNU91827%%	TTNU9182748	1	0	1	1			86	83
SEAU8662270	SEAU86622*0	SEAU8662218	SEAU8662270	SEAU8662210	0	1	0		1		90	88
***********	*STU9913412	GSTU9913412		GSTU9913412	1	0	1	1	1		90	88
TCKU9613806	TCKU9613806	TCKU9613806	TCKU9613806	TCKU9613806	1	1	1				94	92
MSCU4321216	MSCU4321216	MSCU4321216	MSCU4321216	MSCU4321215	1	1	0				94	92
TCKU9176516	TCKU9176516	TCKU9176516	TCKU9176516	TCKU9176516	1	1	1				98	96
TOLU3914681	TOLU3914681	TOLU3914681	TOLU3914681	TOLU3914681	1	1	1				98	96
MSKU8285775	MSKU8285775	MSKU8285775	MSKU8285775	MSKU8285775	1	1	1				102	100
PONU7588870	PONU7588870	PONU7588870	PONU7588870	PONU7588870	1	1	1				102	100
PONU7622172	PONU7622172	PONU7622172	PONU7622172	PONU7622172	1	1	1				107	105
TRIU5883301	TRIU5883301	TRIU5883301	TRIU5883301	TRIU5883301	1	1	1				107	105
TRLU5383960	TRLU5383960	TRLU5383960	TRLU5383960	TRLU5383960	1	1	1				111	109
SEAU4846156	SEAU4846156	SEAU4846156	SEAU4846156	SEAU4846156	1	1	1				111	109
SEAU*472624	SEAU8472624	SEEU8437262	SEAU8472624	SEMU8437262	0	1	0	1			115	113
TEXU7195731	TEXU7195731	TEXU7195731	TEXU7195731	TEXU7195731	1	1	1				115	113
MSKU8242557	MSKU8242557	MSKU8242557	MSKU8242557	@SKU8242557	1	1	1				120	117
APMU8025826	APMU8025826	APMU8023269	APMU802326%	APMU802+826	0	0	0				120	117
GATU8468698	GATU8468*98	GATU8468698	GATU8468698	GATU8468+98	1	1	1		1		124	122
MAEU7029045	MAEU7029045	MAEU7029045	MAEU707904%	MAEU7029045	1	0	1				124	122
TRIU9*30384	TRIU9730384	TRIU9730384	TRIU9+30386	TRIU9730384	1	0	1	1			129	127
MAEU8279096	MAEU8279096	AAEU8279004	AAEU8279006	IG+U8276096	0	0	0				129	127
MAEU6073228	MAEU6073228	MAEU6073228	MAEU6073228	MAEU6073228	1	1	1				134	131
FSCU6399319	FSCU6399319	FSCU6399319	FSCU6399319	FSCU6399319	1	1	1				134	131
POCU1178149	POCU1178149	POCU1178149	POCU1178149	POCU1178149	1	1	1				138	136
TOLU3607474	TOLU3607474	TOLU3607474	TOLU3607474	TOLU3607474	1	1	1				138	136
NYKU6025643	NYKU6025643	NYKU6025643	IYGU6025643	NYKU6025643	1	0	1				144	141
TRIU9163146	TRIU9163146	TRIU9163146	TRIU916314%	IRIU9163146	1	1	0				144	141
IN*U2307847	INKU2307847	INKU2307847	INKU2307847	INKU230784%	1	1	1	1			148	145

MAEU8164097	MAEU8164097	MAEU8164097	MAEU8164097	MAEU8164097	1	1	1				148	145
MSCU4017121	MSCU4017121	MSCU4017121	MSCU4017121	MSCU1017121	1	1	0				152	150
MAEU6196578	MAEU6196578	MAEU6196578	MAEU6196578	MAEU6196578	1	1	1				152	150
TEXU5407976	TEXU5407976	TEXU5407976	TEXU5407978	TEXU5407976	1	0	1				156	154
***********	KNLU5081705	KNLU5081705	KN+U5061705	KNLU5081705	1	0	1	1			156	154
M*CU8883*44	MSCU8883844	MSCU8883844	MSCU8883441	MSCU888384%	1	0	1	1			160	158
INBU531414*	INBU5314148	INBU5314148		INBU5314148	1	0	1	1			160	158
GLDU2088497	GLDU2088497	GLDU2088497	GLDU2088497	GLOU2088497	1	1	0				164	163
MAEU*8225*8	*AEU7822568	MAEU7822568	IAEU7822568	MAEU7822568	1	0	1	1	1		165	164
CRXU9362950	CRXU9362950	CRXU9362950	CRXU9362950	CRXU9362950	1	1	1				165	163
CLHU8180370	CLHU8180370	CLHU8180370	CLHU8180370	CLHU8180370	1	1	1				170	168
SEAU8641405	SEAU8641405	SEAU8641405	SEAU8641405	SEAU8641405	1	1	1				170	168
GSTU7732776	GSTU7732776	GSTU7732776	GSTU7732776	GSTU7732176	1	1	0				175	173
MAEU8287851	MAEU8287851	MAEU8287851	UGIU8287851	MAEU8287851	1	0	1				175	173
APMU*7570*0	APMU2757060	APMU7570600	APMU757060%	PPAU2757%%%	0	0	0	1			183	182
SAMU2206296	SAMU2206296	ARDU2206296	SAMU2206296	ARBU2206296	0	1	0				185	184
PONU3044477	PONU3044477	PONU3044477	PONU3044477	PONU3044477	1	1	1				185	182
****2520**0	****2520730	ZSZU2210???	ZSZU2210%%%	ZSZU2210%%%	0	0	0	1	1	1	189	188
GSTU2854508	*STU*854*08	GSTU2854508	GSTU2854508	@STU2854+08	1	1	0		1		190	189
SCMU4024634	SCMU4024634	SCMU4024634	SCMU4024634	SCMU4024634	1	1	1				190	188
TEXU2987572	****2987572				0	0	0		1		194	193
GATU1036049	GATU1036049	GATU1036049		GATU1036049	1	0	1				196	195
TTNU9598000	TTNU9598000	TTNU9598000		TTNU9598000	1	0	1				196	193
TRIU5631700	TRIU5631700	TRIU5631700	TRIU5631706	TRIU5631700	1	0	1				201	199
TRIU4536530	TRIU4536530	TRIU4536530	TRIU45365%%	TRIU4536530	1	0	1				201	199
CAXU9941990	CAXU9941990	??XU9941990	@@XU9941990		0	0	0				206	204
MSKU8232008	MSKU8232008	MSKU8232008	MSKU8232008	MSKU8232008	1	1	1				206	204
GATU8155369	GATU8155369	GATU8155369	GATU8155369	GATU8155369	1	1	1				211	209
NYKU6137664	NYKU6137664	NYMU3??64??	NYMU37564%%	NYMU32664%%	0	0	0				211	209
MSCU1560990	MSCU1560990	MSCU1560990	MSCU1560990	MSCU1560990	1	1	1				215	214
TTNU3340595	TTNU3340595	TTNU3340595	TTNU3340595	@TNU3340595	1	1	1				217	216
MAEU4562512	MAEU4562512	MAEU4562512	MAEU4562512	MAEU4562512	1	1	1				217	214
GSTU5379016	GSTU5379016	GSTU5379016	GSTU5379016	GSTU5379016	1	1	1				220	220
TPHU8329533	TPHU8329533	TPHU8329533	TPHU8329530	TPHU8329533	1	0	1				222	221
GLDU0571314	GLDU0571314	GLDU0571314	GLOU0571314	GLDU0571314	1	0	1				222	220
SEAU8646460	SEAU8646460	SEAU1864644	SEAU8646461	SEAU1864646	0	0	0				228	225
SEAU4814225	SEAU4814225	SEAU4814225	SEAU4814225	SEAU4814225	1	1	1				228	225
SEAU*3*5478	SEAU8365478	SEAU8365570	SEAU3365478	SEAU8365576	0	0	0	1			233	231
PONU7559070	[illegible]NU7559070	PONU7559070	PONU7559070	PONU7559070	1	1	1				233	231
MSKU8244713	MSK[illegible]8244713	MSKU8244713	MSKU8244713	MSKU82447*3	1	1	1				238	236
MSKU8043637	MSKU8043637	MSKU8043637	MSKU8043637	MSKU8043637	1	1	1				238	236
TGHU7212740	TGHU7212740	TGHU7212740	TGHU7212740	TGHU7212740	1	1	1				243	241
C**U*14****	CAXU7149957	GAXU7149950	CUXU3149%%%	CAXU7149950	0	0	0	1			243	241
SEAU8616193	SEAU8616193	SEAU8616193	SEAU8616193	SEAU8616191	1	1	0				248	246
MAEU8374616	MAEU8374616	MAEU8374616		MAEU8374616	1	0	1				252	250
TTNU9455478	TTNU9455478	TTNU9455478	TTNU9455478	TTNU9455478	1	1	1				256	254
CAXU7077287	CAXU7077287	CAXU7077287	@@XU707728%	CAXU7077287	1	0	1				260	258
TRLU4589771	TRLU4589771	TRLU4589771	TRLU4589771	TRLU4589771	1	1	1				264	262
GATU0674460	GATU0674460	GATU0674460	GATU0674460	GATU0674460	1	1	1				267	266
CMBU2311739	CMBU2311739	CMBU2311739	CMBU2311739	CMBU2311739	1	1	1				268	267
GA*U8*63531	GATU8363531	GATU836353[illegible]	GAIU8363531	GATU8363531	1	0	1	1			268	266
KNLU3411027	KNLU3411027	KNLU3411027	KNLU3411027		1	1	0				272	271
POCU0116688	POCU0116688	POCU0116688	POCU0116688	POCU0116688	1	1	1				271	270
GATU4247894	GATU4247894	GATU4247894	GATU4247894	GATU424789%	1	1	1				272	270
MSCU4638005	MSCU4638005	MSCU4638005	MSCU4638005	MSCU4638005	1	1	1				275	273
TRIU5256739	TRIU5256739	TRIU5256739	TRIU5256739	TRIU5256739	1	1	1				275	273
PONU7298042	PONU7298042	PONU7298042	PONU7298042	PONU7298042	1	1	1				279	277
NYKU6970177	NYKU6970177	NYKU6970372	NKGU6970177	NYKU6970372	0	0	0				279	277
TGHU8038606	TGHU8038606	TGHU8038606	TGHU8038606	TGHU8038606	1	1	1				282	280
TRLU4127942	TRLU4127942	TRLU4127942	TRLU4127942	TRLU4127942	1	1	1				282	280
AMFU8593190	AMFU8593190	AMFU8593190	AMFU8593190	AMFU8593190	1	1	1				287	285
TEXU7194870	TEXU7194870	TEXU7194870	TEXU7194870	TEXU7194870	1	1	1				287	285
MSKU6008806	MSKU6008806	MSKU6008806	MSKU6008806		1	1	0				293	290
MAEU6271305	MAEU6271305	MAEU6271305	MAEU6271305	MAEU627130%	1	1	1				293	290
CRXU9370241	CRXU9370241	CRXU9370241	CRXU9370241	CRXU9370241	1	1	1				296	294
TCKU9925851	TCKU9925851	TCKU9925851		TCKU9925851	1	0	1				296	294
TTNU511300*	TTNU511300*	TTNU5113008	TTNU511300%	TTNU51130%%	1	1	0	1	1		300	298
CLHU8125496	CLHU8125496	CLRU8125496	CLHU812549%	CLRU8125496	0	0	0				300	298
SEAU8610770	SEAU8610770	SEAU5660778	SEAU8610770	SEAU566077%	0	1	0				303	301
TR*U5533714	TRLU5533714	TRLU5533714	TRLU5533714	TRLU5533714	1	1	1	1			307	305

INKU2858515	INKU2858515	INKU2858515	INKU2858515	IIKU2858515	1	1	0				312	310
MSCU4196789	MSCU4196789	MSCU4196789	MSCU4196789	MSCU4196789	1	1	1				312	310
TCKU9139298	TCKU9139298	TCKU9139298	TCKU9139298	TCKU9139298	1	1	1				316	314
TTNU9507648	TTNU9507648	TTNU9507648	@@TU950764%	TTNU9507648	1	0	1				316	314
TCKU9024494	TCKU9024494	TCKU9024494	TCKU9024494	TCKU9024494	1	1	1				320	318
PO*U7*356*9	PONU7135699	PORU7135693	POUU7735649	PORU7135699	0	0	0	1			320	318
MAEU8267670	MAEU8267670	MAEU8267670	MAEU8267670	MAEU8267670	1	1	1				324	322
MSKU8138033	MSKU8138033	MSKU8138033	MSKU8138033	MSKU8138033	1	1	1				324	322
TRIU5775014	TRIU577501*	TRIU5775014	TRIU57750%%	TRIU577501%	1	0	1		1		328	326
APMU4527934	APMU4527934	APMU4527934	APMU4527934	APMU4527934	1	1	1				328	326
GESU4511488	GESU4511488	GESU4511488	GESU4511488	GESU4511488	1	1	1				334	331
MSCU4244953	MSCU4244953	MSCU4244953		MSCU4244953	1	0	1				334	331
MAEU8187512	MAEU818751*	MAEU8187512	MAEU8187512	MAEU8187512	1	1	1		1		339	337
TRLU5214321	*RLU5214321	TRLU5214321	TRLU1521431	@RLU5214321	1	0	1		1		339	337
OC*U13990*8	OCLU13*9028	???????????	@OCU68+4310	OCIU13+9028	0	0	0	1	1		345	343
TRLU6180756	TRLU6180756	TRLU6180756	TRLU6180756	TRLU6180756	1	1	1				351	348
*RLU5287457	TRLU5287457	TRLU5287457	@RLU5287457	TRLU5287457	1	1	1	1			355	353
TTNU9327184	TTNU9327184	TTNU9327184	TTNU9327184	TTNU9327184	1	1	1				359	357
INKU2296640	INKU2296640	INKU2296640	INKU2296640	INKU2296640	1	1	1				363	361
NYKU2497744	NYKU2497744	NYKU2497744	NYGU2497742	NYKU2497744	1	0	1				366	365

Nb. of containers	155	Match Code ID	133		
Nb. Of invalid	2	Match Code ID C1	102	Nb. Of invalid C1	26
Nb. Of Valid	153	Match Code ID C2	117	Nb. Of invalid C2	17
Perfect match code	83				

	C1	C2	PoM	TOTAL
Accuracy :	79,07%	84,78%	86,93%	85,81%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown, as represented by the Gov. Of Canada — Date

DTI **Acceptance Tests Form**

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	[illegible]
2003-03-19	13 12 17	841		287	287	Timestamp

Visual inspection C1	Visual inspection C2	PoM Consist	Code ID C1	Code ID C2	PoM Match	Code ID C1 Match	Code ID C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
CMBU4092650	CMBU4092650	CMBU4092650	CMBU4092650	CMBU4092650	1	1	1				10	8
KNLU5051383	KNLU5051383	KNLU5051383	KNLU5051383	KNLU5051+83	1	1	1				14	12
CLHU2552905	CLHU2552905	CLHU2552905	CLHU2558905	CLHU2552905	1	0	1				17	16
IN*U*61239*	INBU3612*96	INBU3612396	@@NU3612396	INBU3612396	1	0	1	1	1		18	17
I*BU3041614	INBU3041614	INBU3041614	@IBU3041614	INBU3041614	1	0	1	1			21	20
CLHU2605097	CLHU2605097	CLHU2605097	@LHU2605097	CLHU2605097	1	1	1				22	22
MSKU2101401	MSKU2101401	MSKU2101401	MSKU2101401	MSKU210160%	1	1	0				25	24
IPXU3221936	IPXU3221936	IPXU3221936	IPXU3221936	IPXU3221936	1	1	1				27	26
HLXU6018950	HLXU6018950	HLXU6018950	HLXU1601895	HLXU6018950	1	0	1				32	30
OOLU5732932	OOLU5732932	OOLU5732932	OOLU5732932	@OLU5732932	1	1	1				32	30
GSTU9705764	GSTU9705764	GSTU9705764	GSTU9705764	GSTU9705764	1	1	1				36	34
HLXU6114620	HLXU6114620	HLXU6114620	RTXU6114620	HLXU6114620	1	0	1				36	34
MSCU4108598	MSCU4108598	MSCU4100597	MSCU4100598		0	0	0				40	38
TCKU9716701	TCKU9716701	TCKU9716701		TCKU9716700	1	0	0				40	38
GATU8163019	GATU8163019	GATU8163019	GATU8163019	GATU8163019	1	1	1				44	42
SEAU84*5570	SEAU84*5570	SERU8495676	SEAU8495676	ZEMU8405571	0	0	0	1	1	1	44	42
OOLU5280067	OOLU5280067	OOLU5280067	OOLU5280067	OOLU5280067	1	1	1				48	46
OOLU519968C	OOLU5199680	OOLU5199680	OOLU5199680	OOLU5199680	1	1	1				48	46
TRLU4738670	TRLU4738670	TRLU4738670	TRLU4738670	TRLU4738670	1	1	1				53	51
TPHU5278108	TPHU5278108	TPMU5278100	TPMU5278108	TPMU5278108	0	0	0				53	51
OOLU3554214	OOLU3554214	OOLU3554214	OOLU3554214	OOLU3554214	1	1	1				58	57
MSKU2231391	MSKU2231391	MSKU2231391	MSKU2231391	MSKU2231391	1	1	1				59	58
**IU51*3102	TRIU5183102	TRIU5183102	IIIU5183102	TRIU5183102	1	0	1	1			59	57
TCKU9133480	TCKU9133480	TCKU9133480	TCKU9133480	TCKU9133480	1	1	1				64	62
OOLU5566600	OOLU5566600	OOLU5566600	OOLU5566600	OOLU5566600	1	1	1				64	62
HLXU4560710	HLXU4560710	HLXU1456070	HLXU4560710	HLXU1456070	0	1	0				68	67
***********	HLXU6023833	HLXU6023833	I+IU2111+45	HLXU6023833	1	0	1	1			68	67
MSCU8834006	MSCU8834006	MSCU8834006	MSCU8834006	MSCU8834006	1	1	1				73	71
HL*U4587931	HLCU45879*1	HLCU4587931	HLCU4587931	HLCU458797%	1	1	0	1	1		73	71
HLXU4000572	HLXU4000572	HLXU4000572	HLXU4000572	HLXU4000572	1	1	1				78	76
MAEU6114604	MAEU6114604	IAEU6114003	MAEU6114504	IAEU611400%	0	0	0				82	80
SEAU8065871	SEAU80658**	SEPU8065873	SEAU8065871	SEFU80656%%	0	1	0		1		85	83
MSKU6133536	MSKU6133536	MSKU6133536	MSKU6133536	MSKU6133536	1	1	1				89	87
HLCU2130078	HLCU2130078	HLCU2130020		HLCU2130028	0	0	0				92	91
*LXU2191633	HLXU2191633	HLXU2191633		HLXU2191633	1	0	1	1			93	92
MSCU8109205	MSCU8109205	MSCU8109205	MSCU8109205	@SCU8109705	1	1	0				98	95
PONU1609044	PONU1609044	PONU1609044	PONU1609044	PONU1609044	1	1	1				98	95
ICSU1793869	ICSU1793869	ICSU1793869	ICSU1793869	ICSU7938691	1	1	0				103	101
HLXU6027593	HLXU6027593	HLXU6027593	HLXU6027593	HLXU6027593	1	1	1				103	101
PONU7*92063	PONU7492063	PONU7492063	PONU7492063	POMU7492063	1	1	0				109	107
PONU7230269	PONU7230269	PONU7230269	PONU7230269	PONU7230769	1	1	0				109	107
FRLU9612130	FRLU9612130	FRLU9612130	FRLU9612130	FRLU9612130	1	1	1				114	112
***********	HLXU6126805	HLXU6126805		HLXU6126805	1	0	1	1			114	112
CAXU6174934	CAXU6174934	CAXU6174934	CAXU6174934	CAXU6174934	1	1	1				118	117
HLCU2173275	HLCU2173275	HLCU2173275	HLCU2173275	HLCU2173275	1	1	1				119	119
TPHU5287347	TPHU5287347	TPHU5287347	TPHU5287347	TPHU5287347	1	1	1				119	117
POCU0*15099	POCU0315099	POCU0315099	POCU0315099	POCU0315099	1	1	1	1			123	122
PONU0268370	PONU0268370	PONU0268370	PONU0268370	PONU0268370	1	1	1				124	124
HLXU4139439	HLXU4139439	HLXU4139439	HLXU4139439	HLXU4139439	1	1	1				124	122
POCU0512626	POCU0512626	POCU0512626	POCU0512626	POCU0512626	1	1	1				128	127
PONU0226966	PONU0226966	PONU0226966	PONU0226966	PONU0226966	1	1	1				129	129
PONU7219640	PONU7219640	PONU7219640	PONU7219640	PONU7219690	1	1	0				129	127
PONU0908117	PONU0908117	PONU0908117	PONU0908117	PONU0908117	1	1	1				133	132
KNLU3416456	KNLU341645*	KNLU3416456	KNLU3416456	KNLU3416456	1	1	1		1		134	133
TTNU5201114	TTNU5201114	TTNU5201114	TTNU5201114		1	1	0				134	132
FRLU9*00951	*RL**60095*	FRIU9?0095?	FRIU9+0095%		0	0	0	1	1		139	137
POCU7001844	POCU7001844	POCU7001844	POCU790=841	POCU7001844	1	0	1				139	137
HLXU4573640	HLXU4573640	HLXU4573640	HLXU4573690	HLXU4573640	1	0	1				144	142
PONU7545780	PONU7545780	PONU7545780	PONU7545700	PONU7545780	1	0	1				144	142
HLXU4219832	HLXU4219832	HLXU4219832	HLXU4219832	HLXU4219832	1	1	1				149	147
OCLU1440672	OCLU1440672	OCLU1440672	OCLU1440672	OCLU1440072	1	1	0				149	147
PONU7683250	PONU7683250	PONU7683250	PO[illegible]683250	PONU7683250	1	0	1				154	152
PONU7647484	PONU7647484	PONU7647484	PONU[illegible]647484	PONU7647484	1	1	1				154	152
OCLU**32810	OCLU**32810	OCLU7132810	OCLU7232810	OCLU7+3281%	0	0	0	1	1		159	157
***********	HLXU6130298	HLXU6130298	MIIU143[illegible]696	HLXU6130298	1	0	1	1			159	157

PONU7504858	PONU7504858	PONU7504858	PONU7504858	PONU7504858	1	1	1				165	162
PONU7574860	PONU7574860	PONU7574860	PONU7574860	PONU7574860	1	1	1				170	167
SEAU7904662	SEAU7904662	SEAU7904662	SEAU7904662	SEAU7904662	1	1	1				175	172
GSTU7449236	GSTU7449236	GSTU7449236	GSTU7449236	GSTU7449236	1	1	1				180	178
HLXU4349374	HLXU4349374	HLXU4349374	HLXU4349374	HLXU4349374	1	1	1				180	178
HLXU4524707	HLXU4524707	HLXU4524707	HLXU4524707	HLXU4524707	1	1	1				186	183
MSCU8328414,	MSCU8328414	MSCU8328414	MSCU8328414	MSCU8328414	1	1	1				186	183
TRLU4266064	TRLU4266064	TRLU4266064	TRLU4266064	TRLU4266064	1	1	1				191	189
PONU7328276	PONU7328276	PONU7328276	PONU7328276	PONU7328276	1	1	1				191	189
CRXU2883920	CRXU2883920	CRXU2883920	CRXU2883924	CRXU2883920	1	0	1				196	195
CAXU2196529	CAXU2196529	CAXU2196529	CAXU2196529	CAXU2196529	1	1	1				197	196
CLHU8157786	CLHU8157786	CLHU8157786	CLHU8157786	CLHU8157786	1	1	1				197	195
UTTU2110348	UTTU2110348	UTTU2110348	UTTU2110348	UTTU2110341	1	1	0				201	200
CRXU2081191	CRXU2081191	CRXU2081191	CRXU2083191	CRXU2081191	1	0	1				203	202
HLXU6195323	HLXU6195323	HLXU6195323	HLXU6495323	HLXU6195323	1	0	1				203	200
PONU1543522	PONU1543522	PONU1543522	PONU5435212	PONU1543522	1	0	1				208	206
HLCU4*94350	HLCU4094350	HLCU4094350	HLCU4094350	HLCU4094350	1	1	1	1			208	206
CAXU7169845	CAXU7169845	CAXU7169845	CAXU7169845	CAXU7169845	1	1	1				213	211
GLDU07204*6	GLDU0720486	GLDU0720486	GLDU07204%%	GLDU0720486	1	0	1	1			213	211
HLCU2113424	HL*U2113424	HLCU2113424	HLCU2113424	HLCU2111%%%	1	1	0		1		216	215
H***2**63*8	***********				0	0	0	1	1	1	218	217
PONU7327705	PONU7327705	PONU7327705	PONU7327705	PONU7327705	1	1	1				218	215
PONU0737251	PONU0737251	PONU0737251	PONU0737251	PONU0737257	1	1	0				220	220
PONU0714127	PONU0714127	PONU0714127	PONU0714127	PONU0714127	1	1	1				222	221
PONU0882310	PONU0882310	PONU0882310	PONU0882310	PONU0882310	1	1	1				224	224
PONU0812205	PONU0812205	PONU0812205	PONU0812205	PONU0812205	1	1	1				226	225
PONU0924078	PONU0924078	PONU0924078	PONU0924078	PONU0924078	1	1	1				228	228
PONU0938955	PONU0938955	PONU0938955	PONU0938955	PONU0938955	1	1	1				230	229
HLXU4329721	HLXU4329721	HLXU4329721	HLXU4329721	HLXU4329721	1	1	1				230	228
MWCU6165071	MWCU6165071	MICU6165072	MICU6165071	MICU6165071	0	0	0				235	233
PONU4791760	PONU4791760	PONU4791760	PONU4791760	PONU4791760	1	1	1				235	233
PONU4856393	PONU4856393	PONU4856393	PONU4856393	PONU4856393	1	1	1				240	238
PONU4856310	PONU4856310	PONU4856310	PONU4856310	PONU4856310	1	1	1				240	238
***********	TRIU8408820	TRIU8408820		TRIU8408820	1	0	1	1			245	243
***********	CNGU000878*	DCIU3636376	W@@U05+4532	*CIU3636376	0	0	0	1	1	1	245	243
TRIU8410339	TRIU8410339	TRIU8410339	TRIU8410339	TRIU8410339	1	1	1				250	248
***********	TRIU8408795	TRIU8408795	TRTU8406753	TRIU8408795	1	0	1	1			250	248
TRIU8288560	TRIU8288560	TRIU8288560	TRIU8288560	TRIU8288560	1	1	1				255	253
PONU4873410	PONU4873410	PONU4873410	PONU4873410	PONU4873410	1	1	1				255	253
HLXU6182882	HLXU6182882	HLXU6182882	HLXU6182882	HLXU6182882	1	1	1				261	259
HLCU4059826	HLCU40598*6	HLCU4059826	HLCU4059826	HLLU4059826	1	1	0		1		265	263
HLCU4070846	HLCU4070846	HLCU4070846	HICU4070846	HLCU4070846	1	0	1				269	267
HLXU4485010	HLXU4485010	HLXU4485010	HLXU4485010	HLXU4485010	1	1	1				269	267
HLCU4072617	HLCU4072617	HLCU4072617	HUCU4072617	HLCU4072617	1	0	1				273	271
HLXU6072709	HLXU6072709	HLXU6072709	HLXU6072709	HLXU6072709	1	1	1				273	271
HLX*4158167	HLXU4158167	HLXU1915816	HLXU4158187	HLXU1915816	0	0	0	1			277	275
TRLU5*8*816	TRLU5287816	TRLU5287816	TBLU5287816	TRLU5287816	1	0	1	1			277	275
PONU1481061	PONU1481061	PONU1481061		PONU1481061	1	0	1				282	279

Nb. of containers	112	Match Code ID	100		
Nb. Of Invalid	3	Match Code ID C1	76	Nb. Of Invalid C1	20
Nb. Of Valid	109	Match Code ID C2	86	Nb. Of Invalid C2	11
Perfect match code	61				

	C1	C2	PoM	TOTAL
Accuracy	82,61%	85,15%	91,74%	89,29%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown, as represented by the Gov. Of Canada — Date

DTI Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	[illegible]
2003-03-19	15 56 02	842		614	614	Timestamp

Visual Inspection C1	Visual Inspection C2	[illegible]	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# image C1	# image C2
CLHU40447**	CLHU40447**	CLHU40447??	CLHU40447%%	CLHU40447%%	0	0	0	1	1	1	7	9
CRXU9745327	CRXU9745327	CRXU9745327	CRXU974532%	CRXU9745327	1	1	1				7	9
FSCU6665609	FSCU6665609	FSCU6665609	FSCU6665609	FSCU6665609	1	1	1				11	13
PONU7*09832	PONU7*09832	PONU7109832	POMU7409832	PONU7309832	1	0	0		1		11	13
CRXU4568***	CRXU456****	CRXU45?????	CRXU4568%%%	CRXU459%%%%	0	0	0	1	1	1	16	17
TTNU4754178	TTNU4754178	TTNU4754178	TTNU4754178	TTNU4754178	1	1	1				16	17
MAEU7254576	MAEU7254576	MAEU7254576	MAEU7254576	MAEU7254576	1	1	1				20	22
TTNU4751029	TTNU4751029	TTNU4751029	TTNU475102%	TINU475102%	1	1	0				20	22
OCLU1373846	OCLU137*84*	OCLU1373846	OCLU1373846	OCLU1373849	1	1	0		1		23	25
MAEU6170974	MAEU6170974	MAEU6170974	MAEU6170974	MAEU6170974	1	1	1				26	28
GATU8254309	GATU8254309	GATU8254309	GATU8254309	GATU8254309	1	1	1				26	28
MAEU6397058	MAEU6397058	MAEU6397058	MAEU6397058	MAEU6397058	1	1	1				29	31
MAEU8262914	MAEU8262914	MAEU8262914	MAEU6107514	MAEU8262914	1	0	1				29	31
MSCU8289642	MSCU8289642	MSCU8289642	MSCU8289642	MSCU8289642	1	1	1				32	34
CLHU8008904	*LHU8003*04	CLHU8008904	CLHU8008904	CLHU8008304	1	1	0		1		32	34
SEAU*356075	SEAU8356075	MOGU0000004	OOGU0000004	@OOU4510%%%	0	0	0	1			36	37
HLXU4081553	HLXU4081553	HLXU4081553	HLXU4081551	HLXU4081550	1	0	0				36	37
MSCU8790551	MSCU8790551	MSCU8790551	*FNU797777%	MSCU8790551	1	0	1				39	40
OCLU1502901	OCLU15029*1	OCLU1502901	OCLU1502901	OCLU68+4310	1	1	0				39	40
HLXU4146783	HLXU4146783	HLXU4146783	HLXU4146780	HLXU4146783	1	0	1				41	43
HLXU4221871	HLXU4221871	HLXU4221871	HLXU4221871	HLXU4221871	1	1	1				41	43
HLXU4153490	HLXU4153490	HLXU4153490	HLXU4153490	HLIU4153480	1	1	0				44	45
CAXU9903109	CAXU9903109	CAXU9903109		CAXU9903109	1	0	1				44	45
TRLU4383970	TRLU4383970	TRLU4383970	TRLU4383971	IRLU4383970	1	0	0				47	48
HLXU4447806	HLXU4447806	HLXU4447806	HLXU4447806	HLXU4447806	1	1	1				47	48
INBU5093915	INBU5093915	INBU5093915	INBU5093919	INBU5093915	1	0	1				51	53
HLCU4271033	HLCU4*71033	HLCU4271033	HLCU4271033	LLCU4273033	1	1	0		1		51	53
HLCU4248882	*LCU4248882	HLCU4248882	HLCU4248882	HCCU4248882	1	1	0		1		55	57
HLXU4511778	HLXU4511778	HLXU4511778	HLXU4511778	HLXU4511778	1	1	1				55	57
HLXU4327966	HLXU[illegible]327966	HLXU4327966	HLXU4327966	HLXU4327966	1	1	1				59	61
PONU7429142	PONU[illegible]29142	PONU7429142	PONU7429142	PONU7429142	1	1	1				59	61
TRIU4947280	TRIU4947280	TRIU4947280	TRIU4947280	IRIU4947280	1	1	0				64	66
MSCU8017897	MSCU8017897	MSCU8017897	MSCU8017897	NSCU801%%%%	1	1	0				64	66
HLXU4021132	HLXU4021132	HLXU4021132	HLXU4021137	HLXU4021132	1	0	1				68	70
PONU1336593	PONU1336593	PONU1336593	PONU1336593	POMU1336593	1	1	0				68	70
HLXU4575345	HLXU4575345	HLXU4575345	HLKU4575345	HLCU4575345	1	0	0				72	74
HLXU4194190	HLXU4194190	HLXU4194190	HLXU4194190	HLXU4194190	1	1	1				72	74
MSCU8209400	MSCU8209400	MSCU8209400	MSCU8209400	MSCU8209400	1	1	1				76	78
ICSU1786880	ICSU1786880	ICSU1786880	ICSU1786880	ICSU1786880	1	1	1				76	78
HLXU5001336	HLXU5001336	HLXU5001336	HLXU5001336	HLXU5001336	1	1	1				80	81
CRXU4938513	CRXU4938513	CRXU4938513	CRXU4938510	CRXU4938513	1	0	1				80	81
PRSU4004298	PRSU4******	PRSU4004298	PRSU4004298	PRSU4042938	1	1	0		1		83	85
HLXU4362329	HLXU4362329	HLXU4362329	HLIU4362329	HLXU4362329	1	0	1				86	88
HLXU4328915	HLXU4328915	HLXU4328915	HLXU4328915	HLXU4328915	1	1	1	1			86	88
MSCU179291*	MSCU1792911	MSCU1792911	MSCU179791%	MSCU1792911	1	0	1				90	91
PRSU2168266	*RSU2168266				0	0	0		1		91	92
TRLU3469302	TRLU3469302	TRLU3469302	TRLU3469302	TRLU3469302	1	1	1				93	94
MSCU1081831	MSCU108183*	MSCU1081831	MSCU1081831	MSCU1081831	1	1	1		1		94	95
GLDU0282137	GLDU0282137	GLOU0282130	GLOU0282137	GLOU0282137	0	0	0				96	96
GATU0094159	GATU0094159	GATU0094159	GATU0094159	GATU0094159	1	1	1				97	97
KNLU332225*	KNLU3322254	LNLU3822251	LNLU3822254	LNLU3322254	0	0	0	1			99	99
NYKU2513589	NYKU2513589	NYKU2513589	NYGU2513589	NYKU2513589	1	0	1				100	100
TTNU36938**	TTNU36938**	T?NU36938??	TINU36938%%	TTNU36938%%	0	0	0	1	1	1	101	102
PONU0247608	PONU0247608	PONU0247608	PONU0247608	PONU0247608	1	1	1				103	103
MAEU5798610	MAEU579*610	MAEU5798610	MAEU5798610	MAEU5799610	1	1	1				106	107
MWCU6247668	MWCU6247668	MWCU6247668	MWCU6247668	MWCU6247668	1	1	1				109	111
MAEU5504001	MAEU550400*	MAEU5504001	MAEU5504001	MAEU550400%	1	1	1		1		109	111
CRLU1120700	CRLU1120700	CRLU1120700	CRLU1120700	CRLU1120700	1	1	1				113	114
PONU4806330	PONU4806330	PONU4806330	PONU4806330	PONU4806330	1	1	1				113	114
MWCU6246661	MWCU6246661	MWCU6246661	MACU6246661	MWCU6246661	1	0	1				116	118
CRLU5158129	CRLU5158129	CRLU5158129	CRLU5158129	CRLU5158129	1	1	1				116	118
*************	CNGU000856*	MGLU0008567		MGLU000856%	0	0	0	1	1	1	119	119
PONU4758967	PONU4758967	PONU4758967	PONU4758967	PONU4758967	1	1	1				119	121
PONU2927287	PONU2927287	PONU2927287	PONU2927287	PONU2927287	1	1	1				124	125
PONU2932827	PONU2932827	PONU2932827	PONU2932827	PONU2932827	1	1	1				125	126

CRLU1113255	CRLU1113255	CRLU1113255	CRLU1113255	CRLU1113255	1	1	1				124	126
CRLU5205771	CRLU5205771	CRLU5205771	CRLU5205771	CRLU5205771	1	1	1				129	131
MWCU6601494	MWCU6601494	MWCU6601494	MWCU6601494	UUCU6601494	1	1	0				129	131
PONU4842661	PONU4842661	PONU4842661	PONU4842661	PONU4842661	1	1	1				134	136
MWCU6118613	MWCU6118613	MWCU6118613	MWCU6118613	MWCU6118613	1	1	1				134	136
GESU2055408	GESU2055408	GESU2055408	GESU2055408	GESU2055408	1	1	1				139	139
MSKU2192510	MSKU2192510	MSKU2192510	MSKU2192510	MSKU2192510	1	1	1				140	140
MSCU8015045	MSCU8015045	MSCU8015045	MSCU8015045	MSCU8015045	1	1	1				139	140
TPHU6773235	TPHU6773235	TPHU6773235	TPHU6773235	TPHU6773235	1	1	1				143	143
MSCU1780525	MSCU178052*	TPHU6773235	MSCU1780526		0	0	0		1		144	144
C*******0**	CAXU4860323	CAXU4860323		CAXU4860323	1	0	1	1			147	148
TTNU20749**	TTNU20749**	TTNU20749??	TTNU20749%%	TTNU20749%%	0	0	0	1	1	1	147	147
FSCU3716549	FSCU3716549	FSCU3716549	FSCU3716549	FSCU3716549	1	1	1				148	148
MSCU1911163	MSCU1911163	MSCU1911184		MSCU1911183	0	0	0				151	152
U8**4	*STU6568694	GSTU6568694		GSTU6568694	1	0	1	1	1		151	153
GATU0026344	GATU0026344	GATU0026344	GATU0026344	GATU0026344	1	1	1				152	153
FSCU3630738	FSCU3630738	FSCU3630738	FSCU3630738	FSCU3630738	1	1	1				155	155
MSCU2465488	MSCU2465488	MSCU2465488	MSCU2465488	MSCU2465488	1	1	1				156	156
GATU8218003	GATU8218003	GATU8218003	GATU8218003	GATU8218003	1	1	1				155	156
TRIU1654436	TRIU1654436	TRIU1654436	TRIU1654436	TRIU1654436	1	1	1				158	159
TTNU360354*	TTNU360354*	TTNU3603541	TTNU360354%	@INU360354%	1	1	0	1	1		159	160
MSCU8934073	MSCU8934073	MSCU8934073	MSCU8934073	MSCU8934073	1	1	1				158	160
MSCU8172682	MSCU8172682	MSCU8172682	MSCU8172682	MSCU8172682	1	1	1				162	164
TTNU5227994	TTNU5227994	TTNU5227994	TINU5227994	TTNU5227994	1	0	1				162	164
MSCU8942612	MSCU8942612	MSCU8942612	MSCU8942612	MSCU8942612	1	1	1				165	167
POCU1050517	POCU1050517	POCU1050517	POCU1050517	POCU1050511	1	1	0				165	167
TTNU9003924	TTNU9003924	TTNU9003924	TTNU9003924	TTNU9003%%%	1	1	0				170	172
MSCU8694033	MSCU8694033	MSCU8694033	MSCU8694033	USCU8694033	1	1	0				170	172
*LDU0678730	GLDU0678730	GLOU0678733	GLOU0678730	GLOU0678730	0	0	0	1			173	175
MSCU8023061	MSCU8023061	MSCU8023061	MSCU802306%	MSCU807%%%%	1	1	0				173	175
MSCU8233160	MSCU8233160	MSCU8233160	MSCU8233160	MSCU8233160	1	1	1				177	178
PONU7583625	PONU7583625	PONU7583625	PONU7583625	PONU1583625	1	1	0				177	178
MSCU8059763	MSCU8059763	MSCU8059763	MSCU8059763	MSCU8059763	1	1	1				180	182
CAXU7045206	CAXU704520*	CAXU7045206	CAXU7045206	CAXU7045202	1	1	0		1		184	185
KNLU5043705	KNLU5043705	KNLU5043705	KNLU5043705	INLU5043705	1	1	0				188	190
TPHU5244730	TPHU5244730	TPHU5244730	TPHU5244730	TPHU5244730	1	1	1				188	190
CIVU423270*	CIVU423270*	CIVU4232706	CIVU423270%	CIUU%%23270	1	1	0	1	1		191	193
PONU1244943	PONU124494*	PONU1244943	PONU124494%	PONU124494%	1	1	1		1		191	193
CRXU9250924	CRXU9250924	CRXU9250924	CRXU9250924	CRXU9250924	1	1	1				195	196
CAXU7175555	CAXU7175555	CAXU7175555	CAXU7175555	CAXU7175555	1	1	1				195	196
FBLU4125117	FB*U4125117	FBLU4125117	FBLU4125117	FB+U4125117	1	1	1		1		198	200
TTNU5301664	TTNU5301664	TTNU5301664	TTNU530166%	@INU530166%	1	1	0				198	200
MSCU8962687	MSCU8962687	MSCU8962687	USCU8962687	MSCU8962687	1	0	1				201	203
SEAU8230261	SEAU8230261	SEAU8230261	SEAU8230261	SEAU8730261	1	1	0				201	203
TRLU9*35889	TRLU9235889	TRLU9235889	TRLU9235889	TRLU9235889	1	1	1	1			206	208
***********	***********	JVZU5737753	JVZU573775%	AGCU64563%%	0	0	0	1	1	1	210	211
TPHU5299081	TPHU5299081	TPHU5299081	TPHU5299081	TPHU5299081	1	1	1				213	215
MAEU6127284	MAEU6*272*4	MAEU6127284	MAEU6127284	MAEU6127214	1	1	0		1		216	218
POCU4200246	POCU4200246	POCU4200246	POCU4200246	POCU4200246	1	1	1				220	222
MSCU2046542	MSCU204654*	MSCU2046542	MSCU2046547	MSCU2046542	1	0	1		1		224	225
ICSU4760468	ICSU4760468	ICSU4760468	ICSU4760468	ICSU4760468	1	1	1				226	226
NYKU2422426	NYKU2422426	NYKU2422426	NYKU24224%%	NYKU2422426	1	0	1				228	229
MLCU5203935	MLCU5203935	HLCU5203938	HLCU5203935	HLCU5203935	0	0	0				232	234
GSTU2846591	GSTU2846591	GSTU2846591	GSTU2846591	GSTU2846591	1	1	1				236	237
CLHU221133*	CLHU221133*	CLHU2211339	CLHU2211336	CLHU221133%	1	0	1	1	1		238	238
TCKU9375734	TCKU9375734	TCKU9375734	TCKU9375734	TCKU9375734	1	1	1				236	238
PONU0834098	PONU0834098	PONU0834098	PONU0834098	PONU0834098	1	1	1				241	242
POCU0571470	POCU0571470	POCU0571470	POCU0571470	POCU0571470	1	1	1				242	243
MSCU8734100	MSCU8734100	MSCU8734100	MSCU8734100	MSCU8734100	1	1	1				241	243
PONU0693174	PONU0693174	PONU0693174		PONU0693174	1	0	1				245	246
MSCU1805460	MSCU1805460	MSCU1805460		MSCU1805460	1	0	1				247	247
HLXU6115740	HLXU6115740	HLXU6115740	HLXU6115740	HLXU6115740	1	1	1				245	247
HLXU2143194	*LXU214319*	HLXU2143194	HLXU2143194	ILLU0214319	1	1	0		1		250	251
TRLU2056881	TRLU2056881	TRLU2056881	TRLU2056881	TRLU2056881	1	1	1				251	252
HLXU6204615	HLXU6204615	HLXU6204615	HLXU6204615	HLXU6204615	1	1	1				250	252
HLXU2612007	HLXU2612007	CARU2165570	HLXU261%%%%		0	0	0				254	255
CARU2165570	CARU2165570	CARU2165570	CARU2165570	CARU2165570	1	1	1				256	256
GATU8407080	GATU8407080	GATU8407080	GATU8407080	GATU8407080	1	1	1				254	256
TOLU4668411	TOLU4668411	TOLU4668???		TOLU4668%%%	0	0	0				260	261
POCU0329174	POCU0329174	POCU0329174	POCU0329174	POCU0329174	1	1	1				259	260

HLXU4527347	HLXU4527347	HLXU9273477	HLXU9273477	HLXU4527347	0	0	1				259	261
GSTU4469326	*STU4469326	GSTU4469326		GSTU4469326	1	0	1		1		264	264
		GSTU4469326	GSTU4469326		0	0	0	1	1	1		
HLCU4124412	HL**4124412	HLCU4124412	HLCU4124412	HCDU412441%	1	1	0		1		264	265
PONU7503297	PONU7503297	PONU7503297		PONU7503297	1	0	1				268	270
MSCU1939350	MSCU1939350	MSCU1939350	MSCU1939350	MSCU1939350	1	1	1				280	281
NYKU2437581	NYKU2437581	NYKU2437581		NYKU2437581	1	0	1				282	282
I*SU4983646	I*SU498*6*6	ICSU4983646	ICSU4983648	IOSU4983646	1	0	0	1	1		285	286
CAXU242626*	CAXU2426262	CAXU2426262	CAXU2426263	CAXU2426262	1	0	1	1			286	287
SEAU8517626	SEAU8517626	SEAU8517626	SEAU8517621	SEAU8517626	1	0	1				288	290
MSKU8143425	MSKU8143425	MSKU8143425	MSXU8143425		1	0	0				291	293
HLXU6209371	HLXU6209371	HLXU6209371	HLXU6209371	HLXU6209371	1	1	1				294	296
CLOU2382156	CLOU2382156	CLOU2382156	CLOU2382156	CLOU2382156	1	1	1				297	298
IEAU2246358	IEAU2246358	IEAU2246358	IEAU2246358		1	1	0				299	299
****09**267	**LU**21**7	I?LU212117?		I+LU212117%	0	0	0	1	1	1	302	303
MSCU2360532	MSCU2360532	MSCU2360532	MSCU2360532	MSCU2360532	1	1	1				301	301
TRLU4380987	TRLU4380987	TRLU4380987	TRLU4380987	TRLU4380980	1	1	0				304	306
MLCU4150018	MLCU4150018	MLCU4150018	MLCU4150018	MLCU4150018	1	1	1				308	309
HLXU4446862	HLXU4446862	HLXU4446862	HLXU4446862	HLXU4446862	1	1	1				311	312
HLXU2607417	HLXU2607417	HLXU2607417	HLXU2607417	HLXU2607417	1	1	1				314	315
TPHU6367597	TPHU6367597	TPHU6367597	TPHU6367597	TPHU6367597	1	1	1				315	316
HLXU2346479	HLXU2346479	HLXU2346479	HLXU2346479	HLXU2346479	1	1	1				318	319
MSCU2900590	MSCU2900590	MSCU2900590	MSCU2900590	MSCU2900590	1	1	1				319	320
HLXU4109060	HLXU4109060	HLXU4109060	HLXU4109061	HLXU4109060	1	0	1				318	320
SCZU8748860	SCZU87*8860	SCZU8748860	SCZU8748860	SCZU8748860	1	1	1				322	323
TRLU3670277	TRLU3670277	TRLU3670277	TRLU3670277	TBLU3670277	1	1	0				323	324
SEAU8188541	SEAU8188541	SEAU8188541	SEAU8188541	SEAU8188541	1	1	1				326	327
TRLU4026130	TRL*40*6130	TRLU4026130	TRLU4026130	TRLU4026130	1	1	1		1		329	331
MSCU8173879	MSCU8173879	MSCU8173879	MSCU8173879	MSCU8173879	1	1	1				332	334
MSCU1948990	MSCU1948990	MSCU1948990	MSCU1948990	MSCU1948990	1	1	1				336	337
TP*U6547259	TPHU6547259	TPHU6547259	@TMU6547259	TPHU6547259	1	0	1	1			337	338
MSKU8303919	MSKU8303919	MSKU8303919		MSKU8303919	1	0	1				340	342
HLCU4597499	HLCU45*7499	HLCU4697498	HLCU4597493	HLCU4697498	0	0	0		1		348	350
PONU7234285	PONU7234285	PONU7234285	PONU7234285	PONU7234285	1	1	1				352	354
PONU7436183	PONU7436183	PONU7436183	PONU7436183	PONU7436183	1	1	1				355	357
PONU7519708	PONU7519708	PONU7519708	PONU7519708	PONU7519708	1	1	1				359	361
MAEU7302479	MAEU7302479	MAEU7302479	MAEU7302479	MAEU7302479	1	1	1				362	364
POCU7087318	POCU7087318	POCU7087318	POCU7087318	POCU7087318	1	1	1				366	367
POCU1197370	POCU1197370	POCU1197370	POCU1197370	POCU1197370	1	1	1				369	371
TGHU4062158	TGHU4062158	TGHU4062158	TGHU4062158	TGHU4062158	1	1	1				372	374
TTNU5303081	TTNU5303081	TTNU5303081	TINU5303081	TTNU5303081	1	0	1				376	378
HLXU4005609	HLXU4005609	HLXU4005609	HLXU4005609	HLXU4005609	1	1	1				379	381
TRIU5******	TRIU5022812	TRIU5022812		TRIU5022812	1	0	1	1			382	384
HLCU4177048	HLCU4177048	HLCU4177048	HLCU4177048	HLCU4177048	1	1	1				386	388
MSCU4136310	MSCU4136310	MSCU4136310	MSCU4136310		1	1	0				386	388
HLXU4302124	HLXU4302124	HLXU4302124	HLXU4302124	HLXU4302124	1	1	1				390	392
HLXU6206541	HLXU6206541	HLXU6206541	HLXU6206541	HUXU6206541	1	1	0				390	392
HLCU4634144	HLCU4634144	HLCU4634144	HLCU4634144	HLCU4634144	1	1	1				395	397
HLCU4627680	HLCU4627680	MKNU1643???	MKNU1643%%%		0	0	0				395	397
OLCU13892*3	OCLU1389293	OCLU1389293	OCLU1389299	OCLU1389293	1	0	1	1			399	401
PONU7401398	PONU7401398	PONU7401398		PONU7401398	1	0	1				402	404
KNLU4340268	KNLU4340268	KNLU4340268	KNLU4340268	KNLU4340266	1	1	0				405	407
NYKU6125112	NYKU6125112	NYKU6125112	NYKU6125112	NYKU6125112	1	1	1				408	410
OCLU1*29311	OCLU1529311	OCLU1529311	OCLU5293111	OCLU1529311	1	0	1	1			412	414
INBU5322879	INBU5322879	INBU5322879	INBU5322879	INBU5322879	1	1	1				416	418
TTNU5225292	TTNU5225292	TTNU5225292	TTNU5225292	@TNU5225292	1	1	1				416	418
SEAU8645627	SEAU8645627	SEAU8645627	SEAU8645627	SEAU8645627	1	1	1				420	421
MAEU8406117	MAEU8406117	MAEU8406117	MAEU8406117	MAEU8406117	1	1	1				420	421
MAEU*0873*2	MAEU6087392	MAEU6087392	MAEU6087352	MAEU6087392	1	0	1	1			423	425
TTNU9161431	TTNU9161431	TTNU9161431	TTNU9161431	TTNU9161431	1	1	1				423	425
MSCU8000868	MSCU8000868	MSCU8000868	USCU8000868	MSCU8000868	1	0	1				426	428
PONU7371755	PONU7371755	PONU7371755	PONU7371755	PONU7371155	1	1	0				426	428
POCU1186360	POCU1186360	POCU1186360	POCU1186360	POCU1186360	1	1	1				430	432
KNLU433890*	*NLU433890*	KNLU4338907	KNLU4338907	KNLU4338909	1	1	0	1	1		430	432
PONU7316969	PONU7316969	PONU7316969	PONU7316969	POWU7316969	1	1	0				434	436
PONU7113540	PONU7113540	PONU7113540	PONU7113540	PONU7113540	1	1	1				434	436
TPHU5333611	TPHU5333611	TPHU5333611	TPHU5333611	FHLU343892%	1	1	0				438	441
PONU7639370	PONU7639370	PONU7639370	PONU7639370	LGTU2+62336	1	1	0				438	441
MSKU6166334	MSKU6166334	MSKU6166334	MSKU6166334		1	1	0				444	447
PONU7505900	PONU7505900	PONU7505900	IOTU2329%%%	PONU7505900	1	0	1				444	447
PONU1319127	PONU1319127	PONU1319127	PONU1319127	PONU39121%%	1	1	0				448	449
PONU7154385	PONU7154385	PONU7154385	PONU7154385	POIU1154385	1	1	0				448	449
MAEU7160965	MAEU7160965	MAEU7160965	MAEU7160465	MAEU=16096%	1	0	0				450	452
INBU5233489	INBU5233489	INBU5233489	INBU5233488	INBU5233489	1	0	1				450	452

OCLU1219384	OCLU1219384	OCLU1219384	OCLU1710386	OCLU1219384	1	0	1				454	455
INBU469*990	INB*4*99990	INBU4693999		INBU4693990	0	0	0	1	1		457	458
		INBU4690990	INBU4690990		0	0	0	1	1	1		
PONU7674622	PONU7674622	PONU7674622		PONU7674622	1	0	1				460	462
PONU1518495	PONU1518495	PONU1518495		PONU1518495	1	0	1				463	465
GLDU4096486	GLDU4096486	GLDU4096486	GLDU4096486	GLOU4096486	1	1	0				467	469
MAEU6069151	MAEU6069151	MAEU6069151	MAEU6069151	MAEU6069151	1	1	1				471	473
TRIU5048381	TRIU5048381	TRIU5048381	TRIU5048381	TRIU5048381	1	1	1				471	473
CARU5330364	CARU5330364	CARU5330364	CARU5330364	CARU5330364	1	1	1				475	477
POCU1092174	POCU1092174	POCU1092174	POCU1092174	POCU0921714	1	1	0				475	477
PONU1475639	PONU1475639	PONU1475639	PONU1475639	PONU1475639	1	1	1				480	482
PONU1530660	PONU1530660	PONU1530660	PONU1530660	PONU1530660	1	1	1				480	482
TRIU2558144	TRIU2558144	TRIU2558144	TRIU2558144	TRIU2558144	1	1	1				485	485
POCU0308037	POCU0308037				0	0	0				486	487
TRIU1641172	TRIU1641172	TRIU1641172	TRIU1641172	IRIU1641172	1	1	0				487	488
TEXU2343219	TEXU2343219	TEXU2343219	TEXU2343213		1	0	0				483	484
MWCU6552321	MWCU6552321	MWCU6552321	MWCU6552321	MWCU6552321	1	1	1				489	491
MSAU5426756	MSAU5426756	ISAU5426751	ISAU5426751	ISAU5426756	0	0	0				493	495
GESU9059719	GESU9059719	GESU9059719	GESU9059719	GESU905979%	1	1	0				496	498
MAEU5783987	MAEU5783987	MAEU5783987	MAEU5783987	MAEU5783987	1	1	1				500	502
MWCU6035376	MWCU6035376	MWCU6035376	MVCU6035376	MWCU6035376	1	0	1				503	506
CLHU2039317	CLHU2039317		@@MU2039317	NICU2865041	0	0	0				507	508
GSTU4056209	GSTU4056209				0	0	0				508	509
MSCU2865041	MSCU2865041	NICU2865042			0	0	0				510	510
TTNU31337**	TTNU313377*	TTNU3133772	TTNU313%%%%	TTNU313377%	1	0	1	1	1		512	513
PONU0318297	PONU0318297	PONU0318297	PONU0318297	PONU0318297	1	1	1				513	514
TEXU2048580	TEXU2048580	TEXU2048580	TEXU2048580	TEXU2048580	1	1	1				516	517
NYKU2461490	NYKU2461490	NYKU2461490	NYGU2461490	NYKU2461490	1	0	1				517	518
APMU4508364	APMU4508364	APMU4508364	APMU4508364	APMU4508364	1	1	1				519	521
SEAU4865557	SEAU4865557	SEAU4865557	SEAU4865557	SEAU4865557	1	1	1				523	525
APMU4558961	APMU4558961	APMU4558961	APMU4558961	APMU4558961	1	1	1				526	528
SEAU4868134	SEAU4868134	SEAU4868134	SEAU4868134	SEAU4868134	1	1	1				530	532
TRIU2698280	TRIU269*280	TRIU2698280	TRIU2698280	TRIU2693280	1	1	1		1		535	536
TRIU5108198	TRIU5108198	TRIU5108198	TRIU5108198	TRIU5108198	1	1	1				538	540
HLXU*******	HLXU2681***	???????????	IINU45595%%		0	0	0	1	1	1	543	544
MMSU2402433	MMSU2402433	MMSU2402433	MMSU2402439	BMSU2+02438	1	0	0				547	549
OOLU5307770	OOLU5307770	OOLU5307770	OOLU5307770	OOLU5307770	1	1	1				550	552
HLCU2427512	HLCU2427*12	HLCU2427512	HLCU2427512	HLCU2427512	1	1	1		1		557	558
HLXU2090670	HLXU2090670	HLXU2090670	BLXU2090670	HLXU2090670	1	0	1				559	559
TEXU2423994	TEXU2423994	TEXU2423994	TEXU2423994	TEXU2423994	1	1	1				562	563
OCLU7011567	OCLU*011*67	OCLU7011150	OCLU7011156		0	0	0		1		562	564
MSCU1459773	MSCU1459773				0	0	0				563	564
TTNU9803742	TTNU9803742	TTNU9803742		@TNU9803742	1	0	1				565	567
MSKU2011205	MSKU2011*05	MAKU2011209	MAKU2011206	ASKU2011705	0	0	0		1		565	566
PONU0930851	PONU0930851	PONU0930851	PONU0930851	PONU0930851	1	1	1				567	567
POCU0479106	POCU0479106	POCU0479106	POCU0479106	POCU0479106	1	1	1				569	570
PONU0672973	PONU0672973	PONU0672973	PONU0672973	PONU0672973	1	1	1				570	571
GLDU0982850	GLDU0982850	GLOU0982860	GLOU0982860	GLOU0982850	0	0	0				569	571
GATU4140015	GATU4140015	GATU4140015	GATU4140015	GATU4140015	1	1	1				573	575
CLHU4081960	CLHU4081960	CLHU4081960	CLHU408196%	CLHU4081960	1	1	1				573	575
TEXU2478636	TEXU2478636	TEXU2478636	TEXU2478636	TEXU2478636	1	1	1				576	577
GLDU0277830	GLDU0277830	GLOU0277833	GLOU0277830	GLOU0277830	0	0	0				578	578
TRLU5388405	TRLU5388405	TRLU5388405	TRLU5388405	TRLU5388405	1	1	1				576	578
MAEU7359221	MAEU7359221	MAEU7359221		MAEU7359221	1	0	1				580	582
SUDU459692*	SUDU4596920	SUDU4596920	SUOU459692%	SUDU4596920	1	0	1	1			588	590
MWCU6095138	MWCU6095138	MWCU6095138	MWLU6095138	MVCU6095138	1	0	0				592	594
MAEU5511187	MAEU5511187	MAEU5511187	MAEU5511187	MAEU5510187	1	1	0				599	601
SEAU8571530	SEAU8571530	SEAU8571530	SEAU8571532	SEAU8571530	1	0	1				602	604
GATU8555724	GATU8555724	GATU8555724	GATU8555724	@ATU8555724	1	1	1				606	608
		?MMU00001??	@MMU00001%%		0	0	0	1	1	1	-	

Nb. of containers	265	Match Code ID	234		
Nb. Of Invalid	7	Match Code ID C1	176	Nb. Of Invalid C1	28
Nb. Of Valid	258	Match Code ID C2	180	Nb. Of Invalid C2	39
Perfect match code	129				

	C1	C2	PoM	TOTAL
Accuracy	74,26%	79,65%	90,70%	88,30%

Date

DTI Representative

Date

Port of Montreal Representative

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO.	TIME TAKEN	# IMAGES C1	# IMAGES C2	OCR#II						
2003-03-20	04 16 28	850		209	209	Timestamp						
Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID C1 Match	Code ID C2 Match	Invalid C1	Invalid C2	Invalid	# image C1	# image C2
MSCU1942333	MSCU1942333	MSCU1942333	MSCU1942333	MSCU1942333	1	1	1				9	10
MSCU1311430	MSCU1311430	MSCU1311430	MSCU1311430	MSCU1311430	1	1	1				10	11
MAEU6972645	MAEU6972645	MAEU6972645	MAEU6972645	MAEU6972645	1	1	1				14	15
TOLU476598*	TOLU476598*	TOLU4765983	TOLU476598%		1	1	0	1	1		15	16
MAEU7856167	MAEU*856467	MAEU7856167	MAEU7856167	MAEU185116%	1	1	0		1		19	20
UESU2189484	UESU2189484	UESU2189484	UESU2189484	UESU2189484	1	1	1				20	21
TPXU705977*	TPXU7059779	MSCU2106364	TPXU7059771	MSCU2106364	0	0	0	1			24	24
MSCU2106364	MSCU2106364	MSCU2106364	MSCU2106364	TPXU7059779	1	1	0				25	26
PONU7239395	PONU7239395	PONU7239395	PONU7239395	PONU7239395	1	1	1				28	30
OCLU1444451	OCLU1444451	OCLU1444451	OCLU1444451	OCLU14444%%	1	1	0				33	35
SEAU2319140	SEAU2319140	SEAU2379140	SEAU2379140	SEAU2319140	0	0	1				38	39
PONU0119593	PONU0119593	PONU0119593	PONU0119593	PONU0119593	1	1	1				39	40
FRLU8603323	FRLU8603323	FRLU8603323	FRLU8603323	FRLU8603323	1	1	1				38	40
POCU1*346*9	POCU1134639	POCU1134639	POCU1334639	POCU1134639	1	0	1	1			41	43
GLDU0419003	GLDU0419003	GLDU0419003	GLDU0419003	GLOU0419003	1	1	0				41	43
KNLU4299550	KNLU4299550	KNLU4299550	KNIU4299550	KNLU4299550	1	0	1				45	47
PONU1270710	PONU1270710	PONU1270710	PONU1270710	PONU1270710	1	1	1				45	47
MAEU7383059	MAEU7383059	MAEU7383059	MAEU7383059	IAEU7383059	1	1	0				49	51
POCU1214800	POCU1214800	POCU1214800	POCU1214800	POCU1214800	1	1	1				49	51
GLDU0243790	GLDU0243790	GLOU0243793	GLOU0243790	GLOU0243790	0	0	0				53	54
SAMU2146*54	SAMU2146854	SAMU2146854	SAMU2146854	SAMU0146854	1	1	0	1			54	55
PONU1327375	PONU1327375	PONU1327375	PONU1327375	PONU132737%	1	1	1				53	55
TRLU2107607	TRLU2107607	TRLU2107607	TRLU2107607	TRLU2107607	1	1	1				57	58
POCU0184110	POCU0184110	POCU0184110	POCU0184110	POCU0184110	1	1	1				58	59
TTNU5704567	TTNU5704567	TTNU5704567		TTNU5704567	1	0	1				61	63
SEAU8180920	SEAU8180920	SEAU8180920	SEAU8180920	SEAU8180920	1	1	1				61	63
PONU1288155	PONU1288155	PONU1288155	PONU1288155	PONU1288155	1	1	1				65	67
UESU4565322	UESU4565322	UESU4565322	UESU4565322	UESU4565322	1	1	1				68	70
TGHU4343031	TGHU4343031	TGHU4343031	TGHU434303%	TGHU434303%	1	1	1				68	70
TTNU3676846	TTNU367684*	TTNU3676846	TTNU3676846	TTNU3676844	1	1	0		1		72	73
MAEU7823266	MAEU7823266	MAEU7823266	MAEU7823266	MAEU7823266	1	1	1				73	74
HLXU4613471	HLXU4613471	HLXU4613471	HLXU4613471	HLXU4613171	1	1	0				76	78
HLCU4561710	HLCU4561710	HLCU4561710	HLCU4561710	HLCU4561710	1	1	1				76	78
HLXU6203250	HLXU6203250	HLXU6203250	HLXU6203250	HLXU6203250	1	1	1				80	82
HLCU4235123	HLCU4235123	HLCU4235123	HLLU4235123	HLCU4235123	1	0	1				80	82
*OLU558369	OOLU5558369	OOLU5558369	GOLU5558369	OOLU5558369	1	0	1	1			87	89
HLXU4487162	HLXU4487162	HLXU4487162	HLXU4487162	HLXU4487162	1	1	1				87	89
MAEU6710882	MAEU6710882	MAEU6710882	MAEU6710882	MAEU6710882	1	1	1				91	92
OOLU3158044	OOLU3158044	OOLU3158044	OOLU3158044	OOLU3158044	1	1	1				92	93
HLXU6195771	HLXU6195771	HLXU6195771	HLXU6195771	HLXU6195771	1	1	1				91	93
OOLU5107410	OOLU5107410	OOLU5107410	OOLU5107410	OOLU5107410	1	1	1				101	103
PONU4776092	PONU4776092	PONU4776092	PONU4776092	PONU4776092	1	1	1				101	103
OOLU5785402	OOLU5785402	OOLU5785402	OOLU5785402	OOLU5785402	1	1	1				105	107
OOLU5102173	OOLU5102173	OOLU5102173	OOLU5102173	OOLU5102173	1	1	1				105	107
PONU1235134	PONU1235134	PONU1235134	PONU1235134	PONU1235134	1	1	1				110	111
PONU1295853	PONU1295853	PONU1295853	PONU1795853	PONU1295853	1	0	1				110	111
POCU7085280	PO*U7085280	POCU7085280	POCU7085280	POLU7085280	1	1	0		1		114	116
OOLU7103986	OOLU7103986	OOLU7103986	OOLU7103986	OOLU7103986	1	1	1				114	116
PONU7571809	PONU7571809	PONU7571809	PONU7571809	PONU7571809	1	1	1				119	121
***********	KNLU5091956	GLTU6246653	GLTU6246654	KNLU5095956	0	0	0	1			119	121
TPHU4572484	TPHU4572484	TPHU4572484	TPHU4572484	TPHU4572484	1	1	1				124	126
MWCU6162895	MWCU6162895	MWCU6162895	@MUU1178115	UUCU6162895	1	0	0				124	126
PONU0810563	PONU0810563	PONU0810563	PONU0810563	PONU0810563	1	1	1				129	130
KNL*2608177	KNLU2608177	KNLU2608177	LOZU08177%%	KNLU2608177	1	0	1	1			130	131
SEAU7822271	SEAU7822271	SEAU9822270	SEAU9822270	SEAU7822271	0	0	1				129	131
POCU0125334	POCU0125334	POCU0125334	POCU0125334	POCU0125334	1	1	1				134	135
CRXU1212949	CRXU1212949	CRXU1212949	CRXU1212949		1	1	0				133	134
MAEU4531445	MAEU4531445	MAEU4531445	MAFU4531445	HAEU4531445	1	0	0				133	135
TRIU9981986	TRIU9981986	TRIU9981986	TRIU9981986	TRIU9981986	1	1	1				137	139
PONU0302449	PONU0302449	PONU0302449	PONU0302449	PONU0302449	1	1	1				142	142
TRIU3848683	TR*U3848683	TRIU3848683	TRIU3848683	@IRU3848683	1	1	0		1		143	143
MAEU8105962	MAEU8105962	MAEU8101062	MAEU8101062	MAEU810962%	0	0	0				142	143
TRLU5438954	TRLU5438954	TRLU5438954	TRLU5438954	TRLU5438954	1	1	1				146	148
MSCU4218996	MSCU421899*	MSCU4218996	MSCU421899%	MSCU421899%	1	1	1		1		146	148
TTNU4026320	TTNU4026320	TTNU4026320	TTNU4026320	TTNU4026320	1	1	1				150	152

ICSU1868063	ICSU1868063	ICSU1868063	ICSU1868063	ICSU1868063	1	1	1				150	152
AXU710202	CAXU7102029	CAXU7102029	CAXU7102027	CAXU7102029	1	0	1	1			155	157
POCU7006337	POCU7006337	POCU7006337	POCU7606337	POCU7006337	1	0	1				155	157
CAXU623773*	CAX*6237734	CAXU6237734	CAXU6237734	CAXU6237734	1	1	1	1	1		159	160
MSKU2332294	MSKU2332294	MSKU2332294	MSKU2332294	MSKU2332294	1	1	1				160	161
OCLU1508237	OCLU1508237	OCLU1508237	OCLU1508237	OCLU150823%	1	1	1				159	161
MAEU72282*7	MAEU72282**	MAEU7228279	MAEU722827%	MAEU7228%%%	0	0	0	1	1	1	164	166
PONU7244513	PONU7244513	PONU7244513	PONU7244513	PONU7244513	1	1	1				164	166
ICSU4915596	ICSU4915596	ICSU4915596	@CSU4915596	ICSU4915596	1	1	1				169	169
TPHU6889821	TPHU6889821	TPHU6889821	TPHU6889821	TPHU6889821	1	1	1				170	171
MAEU6325757	MAEU6325757	MAEU6325757	MAEU6325757	MAEU6325757	1	1	1				169	171
MSCU1827221	MSCU1827221	MSCU1827221		MSCU1827221	1	0	1				173	173
CAR*******7	CARU2714197	MSCU1827221	MSCU1827221	CARU2714197	0	0	1	1			174	175
OCLU1474965	OCLU1474965	OCLU1474965	OCLU1474969	OCLU1474965	1	0	1				180	182
TGHU7946039	TGHU7946039	TGHU7946039	TGHU7946039	TGHU7946039	1	1	1				183	185

Nb of containers	80	Match Code ID	72		
Nb Of Invalid	1	Match Code ID C1	59	Nb Of invalid C1	11
Nb Of Valid	79	Match Code ID C2	61	Nb Of invalid C2	8
Perfect match code	47				

	C1	C2	PoM	TOTAL
Accuracy :	85,51%	84,72%	91,14%	90,00%

DTI Representative Date

Port of Montreal Representative Date

The Crown as represented by the Gov. Of Canada Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-20	16 04 18	851		439	439	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# image C1	# image C2
GATU4226783	GATU4226783	GATU4226783	GATU4226783	CATU422678%	1	1	0				13	10
MSCU4145523	MSCU4145523	MSCU4145523	MSCU4145523		1	1	0				17	15
HLCU424654*	HLCU4246540	HLCU4246540	HLCU4246540	HLCU4246540	1	1	1	1			21	19
HLXU4295323	HLXU4295323	HLXU4295323	HLXU4295323	HLXU4295323	1	1	1				25	23
GATU4121761	GATU4121761	GATU4121761	GATU4121761	GATU4121761	1	1	1				29	26
TPHU4674233	TPHU4674233	TPHU4674233	TPHU4674233	TPHU4674233	1	1	1				33	31
IEAU4602329	IEAU4602329	IEAU4602329	IEAU4602329	IEAU4602329	1	1	1				37	35
HLCU4176545	HLCU4176545	HLCU4176545	HLCU4176545	HLCU4176545	1	1	1				40	38
HLXU4490295	HLXU4490295	HLXU4490295	HLXU4490295	HLXU4490295	1	1	1				44	42
GATU4263771	GATU4263771	GATU4263771	GATU4263773	GATU4263771	1	0	1				47	45
CRLU7100044	CRLU7100044	CRLU7100044	CRLU7100041	CRLU7100044	1	0	1				52	50
*ATU*471*51	GATU8471351	GATU8471351	GAIU8471357	SATU8471151	1	0	0	1			52	50
MWCU6560749	MWCU6560749	MWCU6560749	MWCU6560749	MWCU6560749	1	1	1				57	55
MWCU6629784	MWCU6629784	MWCU6629784	IMUU6629784	MWCU6629784	1	0	1				57	55
NYKU7912998	NYKU7912998	NYKU7912998	NYKU7912998	NYGU7912998	1	1	0				62	60
MWCU6111537	MWCU6111537	MWCU6111537	MVCU6111537	MWCU6111537	1	0	1				62	60
POCU4702563	POCU4702563	POCU4702563	POCU4702563	POCU4702563	1	1	1				67	65
TRIU8644996	TRIU8644996	TRIU8644996	IRIU8644996	TRIU8644996	1	0	1				67	65
CNGU000869*	***********	INIU0008691	INIU000869%		0	0	0	1	1	1	72	70
HLXU4775620	HLXU4775620	HLXU4775620	HLXU4775620	HLXU4775620	1	1	1				72	70
PONU4731061	PONU4731061	PONU4731061	PONU4731061	POMU4731061	1	1	0				78	75
NYKU7002581	NYKU7002581	NYKU7002581	NYKU7002581	NYKU7002581	1	1	1				78	75
TRIU8412394	TRIU8412394	TRIU8412394	TRIU8412394	TRIU8412394	1	1	1				83	81
MAEU5787914	MAEU5787914	MAEU5787914	LXAU578+914	IAEU5787914	1	0	0				83	81
NYKU7780079	NYKU7780079	NYKU7780079	NYKU7780079	NYKU7780079	1	1	1				89	87
TRIU8523802	TRIU8523802	TRIU8523802	TRIU8523802	TRIU8523802	1	1	1				89	87
GATU8364292	GATU8364292	GATU8364292	GATU8364292	GATU8364292	1	1	1				[illegible]	92
UTTU2413792	UTTU2413792	UTTU2413792	EMCU2569565	UTTU2413792	1	0	1				[illegible]	96
EMCU*569565	EMCU256956*				0	0	0	1	1		[illegible]	98
TRLU497*161	TRLU4978161	TRLU4978161	TRLU4970161	TRLU4978161	1	0	1	1			103	100
GSTU7164486	GSTU7164486	GSTU7164486	GSTU7164486	GSTU7164486	1	1	1				111	109
HLXU6172009	HLXU6172009	HLXU6172009	HLXU6172009	HLXU6172009	1	1	1				116	114
MSKU8101409	MSKU8101409	MSKU8101409	MSKU8101409	NS@U8101409	1	1	0				116	114
HLXU6093208	HLXU6093208	HLXU6093208	HLXU6093208	HLXU6093208	1	1	1				127	118
TCKU9142780	TCKU9142780	?CKU9142780		@CKU9142780	0	0	0				121	118
TCKU9921970	TCKU9921970	TCKU9921970	TCKU9921970	TCKU9921970	1	1	1				125	123
HLCU4281411	HLCU4281411	HLCU4281411	HLCU4281410	HLCU4281411	1	0	1				125	123
HLCU4194127	HLCU4194127	HLCU4194127	HLCU4194127	HLCU19412%%	1	1	0				130	128
HLCU4546845	HLCU4546845	HLCU4546845	HLCU4566845	HLCU4546849	1	0	0				135	132
HLXU6202947	HLXU6202947	HLXU6202947	HLXU6202947	HLXU6202947	1	1	1				140	137
TRIU9134533	TRIU9134533	TRIU9134533	TRIU9134533	TRIU9134533	1	1	1				144	142
HLXU6106218	HLXU6106218	HLXU6106218	HLXU6106218	HLXU6206218	1	1	0				149	146
HLXU6148640	HLXU6148640	HLXU6148640	HLXU6148640	HLXU6148640	1	1	1				153	151
HLXU4545510	HLXU4545510	HLXU4545510	HLXU4545510	HLXU6545510	1	1	0				157	155
HLXU6091988	HLXU6091988	HLXU6091988	HLXU6091988	HLXU6091988	1	1	1				161	159
GLDU4096850	GLDU4096850	GLDU4096850	GLDU4096850	GLOU4096850	1	1	0				167	164
TTNU5568687	TTNU5568687	TTNU5568687		TTNU5568687	1	0	1				167	164
MLCU4313075	MLCU4313075	MLCU4313075	MLCU4313075	MLCU4313075	1	1	1				172	170
SEAU8062039	SEAU8062039	SEAU8062039	SEAU8062039	SEAU8062039	1	1	1				172	170
TRIU9262690	TRIU9262690	TRIU9262690	TRIU9262690	TRIU9262690	1	1	1				177	175
SEAU7*52701	SEAU7852701	SEAU7852701	SEAU7852701	SEAU52701%%	1	1	0	1			177	175
TRIU9498031	TRIU9498031	TRIU9498031	TRIU9498030	TRIU9498031	1	0	1				183	180
TTNU9550372	TTNU9550372	TTNU9550372	TTRU9550372	TTMU9550372	1	0	0				183	180
TRIU5042104	TRIU5042104	TRIU5042104	TRIU5042104	TRIU5042104	1	1	1				188	186
SEAU8190868	SEAU8190868	SEAU8190868	SIAU8190868	SEAU8190868	1	0	1				188	186
TRLU4092635	TRLU4092635	TRLU4092635	TRLU4092635	TRLU4092635	1	1	1				193	190
TOLU*970192	TOLU2970192	TOLU2970192	TOLU2970192	TOLU2970192	1	1	1	1			193	190
TTNU9501887	TTNU9501887	TTNU9501887	TTNU9501887	@INU9501887	1	1	0				198	195
MSKU6135349	MSKU6135349	MSKU6135349	MSKU6135349	MSKU6135349	1	1	1				198	195
UESU2193910	UESU2193910	UESU2193910	UESU2193910	UESU2193910	1	1	1				201	200
TRIU2798839	TRIU2798839	TRIU2798839	TRIU2798839	TRIU2798839	1	1	1				202	202
GSTU9465067	GSTU9465067	GSTU9465067	GSTU9+65067	GSTU9465067	1	1	1				202	200
KNLU4330320	K*LU4*30320	KNLU4330320	KNLU4330320	KILU4330320	1	1	0		1		208	205
TEXU4761748	TEXU4761748	TEXU4761748	TEXU47617%%	TEXU4761748	1	0	1				208	205
TRLU6177773	TRLU6177773	TRLU6177773	TRLU6177773	TRLU6177773	1	1	1				211	209

PONU7158251	PONU7158251	PONU7158251	PONU7158251	PONU7158251	1	1	1				211	209
TRIU5036328	TRIU5036328	TRIU5036328	TRIU5036328	TRIU5036328	1	1	1				215	213
************	GSTU8922894	GSTU8922894		GSTU8922896	1	0	0	1			215	213
SEAU8666208	SEAU8666208	SEAU8666208	SEAU8666208	SEAU8666201	1	1	0				218	216
MAEU6296751	MAEU6296751	MAEU6296751	MAEU6296751	NAEU6296751	1	1	0				218	216
PRSU4059304	PRSU4059304	PRSU4059304	PISU4059304	PRSU4059304	1	0	1				222	220
TRIU5589621	TRIU5589621	TRIU5589621	TRIU558962%	TRIU5589621	1	1	1				222	220
GATU1052332	GATU1052332	GATU1052332	GATU1052332		1	1	0				227	226
TRLU3236759	TRLU3236759	TRLU3236759	TRLU3236759	TRLU3236759	1	1	1				225	224
MSCU8278951	MSCU8278951	MSCU8278951		MSCU8278951	1	0	1				230	228
TRLU5652122	TRLU5652122	TRLU5652122	TRLU5652122	TRLU5652120	1	1	0				230	228
GATU8394867	GATU8394867	GATU8394867	GATU8394867	GATU8394867	1	1	1				235	232
POCU4207662	POCU4207662	POCU4207662	POCU4207660	POCU4207662	1	0	1				235	232
KNLU4338424	KNLU4338424	KNLU4338424	KNLU4338421	KNLU4338426	1	0	0				239	236
FSCU6285511	FSCU6285511	FSCU6285511	FSCU6285511	FSCU6285511	1	1	1				239	236
CAXU9706049	CAXU9706049	CAXU9706049	CAXU9706049	CAXU9706049	1	1	1				243	241
MAEU7273370	MAEU7273370	MAEU7273370	MAFU7273370	NAFU7273%%%	1	0	0				243	241
MSCU2372127	MSCU2372127	MSCU2372127	MSCU2372127	MSCU2372127	1	1	1				247	246
TTNU29358**	TTNU29358**	TTNU29358??	TTNU29358%%	TTNU29358%%	0	0	0	1	1	1	248	247
POCU4203862	POCU4203862	POCU4203862	POCU4203862	POCU03862%%	1	1	0				248	246
TEXU4430204	TEXU4430204	TEXU4430204	TEXU4430204	TEXU4430204	1	1	1				252	250
SEAU8405*6*	SEAU8405*60	SLAU8405364	SFAU8495364	SEAU8405569	0	0	0	1	1	1	252	250
GATU0582003	GATU0582003	GATU0582003	GATU0582003	GATU0582003	1	1	1				255	245
GATU1029760	GATU1029760	GATU1029760	GATU1029760	GATU1029760	1	1	1				256	256
************	CAXU4081278	CAXU4081278		CAXU4081278	1	0	1	1			261	254
MAEU6756986	MAEU6756986	MAEU6756986	AAEU6756986	MAEU6756986	1	0	1				261	260
GSTU4789850	GSTU4789850	GSTU4789850	GSTU4789854	GSTU6789850	1	0	0				262	261
************	TRIU4568727	TRIU4568727		TRIU4568727	1	0	1	1			262	260
MSKU2577194	MSKU2577194	MSKU2577194	MSKU2577194	MSIU2577194	1	1	0				266	265
************	CMBU2370243	??BU037024?		@@BU037024%	0	0	0	1			265	264
TRIU5123720	TRIU5123720	TRIU5123720	TAIU5123720	TRIU5123720	1	0	1				266	264
****3142629	****3142629				0	0	0	1	1	1	269	269
MSKU2294297	MSKU2294297	MSKU2294297	MSKU2294297	MS+U2294297	1	1	1				271	270
MSCU4088423	MSCU4088423	MSCU4088423	MSCU4088423	MSCU4088423	1	1	1				271	269
SEAU2168487	SEAU2168487	SEAU2168487	SEAU2168487	SEAU2168487	1	1	1				275	274
GSTU5252016	GSTU5252016	GSTU5252016	GSTU5252016	GSTU5252016	1	1	1				276	275
FSCU6574772	FSCU6574772	FSCU6574772	FSCU6574772	FSCU6574772	1	1	1				276	274
MSKU2239330	MSKU2239330	MSKU2239330	MSKU2239330	MSKU2239330	1	1	1				280	279
TRLU2183675	TRLU2183675	TRLU2183675	TRLU2183675	TRLU2183675	1	1	1				281	280
TRIU5170640	TRIU5170640	TRIU5170640	TRIU5170640	TRIU5170640	1	1	1				281	279
MAEU6979085	MAEU6979085	MAEU6979085	MAEU6979085	MAEU6979085	1	1	1				285	284
MSKU2587696	MSKU2587696	MSKU2587696	MSKU2587696	MSGU2587696	1	1	0				286	285
TT**9718912	TTNU9718912				0	0	0	1			286	284
MSKU2202710	MSKU2202710	MSKU2202710	MSKU2202710	MSKU2202710	1	1	1				289	289
MSCU2033925	MSCU2033925	MSCU2033925	MSCU2033925	MSCU2033925	1	1	1				291	290
TEXU7170564	TEXU7170564	TEXU7170564	TEXU7170564	TEXU7170564	1	1	1				291	289
TTNU2091306	TTNU2091306	TTNU2091306	TTNU2091306	TTNU2091306	1	1	1				294	294
MAEU6757766	MAEU6757766	MAEU6757766	MAEU6757766	MAEU6757766	1	1	1				296	295
TCKU9606432	TCKU9606432	TCKU9606432		TCKU9606432	1	0	1				296	294
TTNU28619**	TTNU2861***	TTNU2861???	TTNU2861%%%	TTNU2861%%%	0	0	0	1	1	1	300	299
TTNU206991*	TTNU2069***	TTNU2069914	TTNU206991%	TTNU20690%%	1	1	0	1	1		301	300
KNLU5089809	KNLU5089809	KNLU5089809	KNLU5089809	KNLU5089809	1	1	1				301	299
CRXU2395588	CRXU2395588	CRXU2395588	CRXU2395588	CRXU2395588	1	1	1				304	303
MSKU2211055	MSKU2211055	MSKU2211055	MSKU2211055	MSKU2211055	1	1	1				305	305
SEAU8419018	SEAU8419018	ZERU8409016	SIAU8419018	ZERU8409018	0	0	0				305	303
MAEU6742679	MAEU67*2679	MAEU6742679	MAEU6742679	M+EU4267%%%	1	1	0		1		308	307
LCRU210741*	LCRU210741*	LCRU2107412	LCRU2107417	LCRU210741%	1	0	1	1	1		309	309
CLHU8239647	CLHU8239647	CLHU8239647	CLHU823964%	CLHU8239647	1	1	1				309	307
INBU3442480	INBU3442480	INBU3442480	INBU3412480	INBU3442480	1	0	1				312	311
PONU0742617	PONU0742617	PONU0[illegible]617	PONU0742617	PONU0742610	1	1	0				314	313
KNLU5078872	KNLU5078872	KNLU5078872	KNLU5078872	KILU5078872	1	1	0				314	311
MSCU1307533	MSCU1307533	MSCU1307533	MSCU1307530	MSCU1307533	1	0	1				316	315
PONU0375110	PONU0375110	PONU0375110	PONU0375110	PONU0375110	1	1	1				318	317
TGHU4010658	TGHU4010658	TGHU4010658	@@HU401065%	TGHU4010658	1	0	1				318	315
CRXU2228718	CRXU2228718	CRXU2228718	CRXU2228718	CRXU2228718	1	1	1				322	321
MSK*233*030	MSKU2331030	MSKU2331030	MSKU233+030	MSKU2331030	1	0	1	1			323	322
GESU41955*0	GESU41955*0	GESU4195570	GESU4195570	GESU419550%	1	1	0	1	1		323	321
LCRU2110798	LCRU2110798	LCRU2110798	LCRU2110798	LCRU2110798	1	1	1				327	326
SEAU2329046	SEAU2329046	SEAU2329046	SEAU2329048	SEAU2329046	1	0	1				328	327
POCU7059363	POCU7059363	POCU7059363	POCU7059363	POCU7059393	1	1	0				328	326

GESU4294485	GESU4294485	GESU4294485	GESU4294485	GESU4294485	1	1	1				333	331
PONU7605149	PONU7605149	PONU7605149	PORU605149%	PONU7605149	1	0	1				333	331
MSCU8735148	MSCU8735148	MSCU8735148	MSCU87351%%	MSCU8735148	1	0	1				338	336
INBU5162030	INBU5162030	INBU5162030	INBU5102030	INBU5162030	1	0	1				338	336
TTNU9908091	TTNU9908091	TTNU9908091	TTNU9908091		1	1	0				342	340
MSCU8234070	MSCU8234070	MSCU8234070	MSCU8234070		1	1	0				342	340
MSCU1361391	MSCU1361391	MSCU1361391	MSCU1361391	MSCU1361391	1	1	1				346	345
CRXU1775541	CRXU1775541	CRXU1775541	CRXU1775541	CRXU1775541	1	1	1				348	347
MAEU60140*9	MAEU6014009	AAEU6014069	AAEU6014069	PAEU6014%%%	0	0	0	1			348	345
MSCU1303923	MSCU1303923	MSCU1303923	MSCU1303920	MSCU1303923	1	0	1				352	351
GLDU0272946	GLDU0272946	GLDU0272946	GLOU0272946	GLDU0272946	1	0	1				353	352
SEAU8161704	SEAU8161704	SEAU8161704	SIAU8161704	SEAU8161704	1	0	1				353	351
TRLU2017036	TRLU2017036	TRLU2017036	TRLU2017036	TRLU2017036	1	1	1				357	356
CAXU2540887	CAXU2540887	CAXU2540887	CAXU2540887	CAXU2540887	1	1	1				358	357
MAEU6262448	MAEU6262448	MAEU6262448	MAEU6262448	MAEU626218%	1	1	0				358	356
POCU1137181	POCU1137181	POCU1371815	POCU1371811	POCU1371811	0	0	0				364	361
TTNU9556112	TTNU9556112	ANNU9556112	Z+NU9556112	@INU9556112	0	0	0				364	361
TEXU7244646	TEXU7244646	TEXU7244646	TEXU7244646	TEXU7244646	1	1	1				369	367
TTNU5558755	TTNU5558755	TTNU5558755	TTWU555875%	TTNU5558755	1	0	1				369	367
MSKU8092924	MSKU8092924	MSKU8092924	MSKU8092924	MSKU8092924	1	1	1				374	372
TGHU7274171	TGHU7274171	TGHU7274171	TGHU7274171	TGHU7274171	1	1	1				374	372
CLHU2706261	CLHU2706261	CLHU2706261		ULHU2706261	1	0	0				378	377
PONU7185914	PONU7185914	PONU7185914	MILU7363563	PONU7185914	1	0	1				381	377
GSTU4781083	GSTU4781083				0	0	0				381	379
GATU0766823	GATU0766823	GATU0766823	GATU0766823	GATU0766823	1	1	1				386	385
MSKU2189250	MSKU2189250				0	0	0				387	386
PONU7354906	PONU7354906	PONU7354906	PONU1354906	PONU7354906	1	0	1				387	385
ICSU4534310	ICSU4534310	ICSU4534310	ICSU4534310	ICSU4534316	1	1	0				391	390
PONU0997557	PONU0997557	PONU0997557		PONU0997557	1	0	1				390	389
GLDU0468287	GLDU0468287	GLDU0468287	GLOU0468287	GLDU0468287	1	0	1				394	392
SEAU7896227	SEAU7896227	SEAU7896227	SEAU7826423	SEAU7896227	1	0	1				397	396
GESU4523067	GESU4523067	GESU4523067	GESU4523067	GESU4523067	1	1	1				401	399
SEAU*325971	SEAU2325971	SEAU2325673	SEAU2325671		0	0	0	1			405	404
PONU0242057	PO*U0242057	PONU0242057	PONU0242057	SEAU2325971	1	1	0		1		407	406
MSCU1222396	MSCU1222396	MSCU1222396	MSCU1222396	MSCU1222396	1	1	1				408	408
		OCVU0242097		OXVU0242097	0	0	0	1	1	1		
MSCU4146094	MSCU4146094	MSCU4146094	MSCU4146094	MSCU4146094	1	1	1				412	410
MSKU8239430	MSKU8239430	MSKU8239430	MSKU8239430	MSKU8239430	1	1	1				415	413
FRLU8606873	FRLU8606873	FRLU8606873	FRLU8606873	FRLU8606873	1	1	1				419	417
PONU0935318	PONU0935318	PONU0935318	POMU0935318	PONU0935318	1	0	1				421	421
MSCU1922070	MSCU1922070	MSCU1922070	MSCU1922070	MSCU1922070	1	1	1				423	422
***********	CMBU2*4185*	CWLU2341857	CWIU2341857	CHBU241851%	0	0	0	1	1	1	426	425
POCU0*737*2	POCU0373752	POCU0373752	POCU0373752	POCU0373752	1	1	1	1			427	426
TRLU4648745	TRLU4648745	TRLU4648745	TRLU4148745	TRLU4648745	1	0	1				427	425
UESU4561081	UESU4561081	UESU4561081	UESU4561081	UESU4561081	1	1	1				431	429
CLHU4118797	CLHU4118797	CLHU4118797	CLHU411879%	CLHU4118797	1	1	1				431	429
TRIU9679560	TRIU9679560	TRIU9679560	TRIU9679560	TRIU9679560	1	1	1				435	433
SEAU7871300	SEAU7871300	SEAU7871300	SEAU7871300	SEAU7871300	1	1	1				435	433

Nb of containers	181	Match Code ID	165		
Nb Of invalid	4	Match Code ID C1	116	Nb Of invalid C1	22
Nb Of Valid	177	Match Code ID C2	126	Nb Of invalid C2	11
Perfect match code	86				

	C1	C2	PoM	TOTAL
Accuracy	72,96%	74,12%	93,22%	91,16%

DTI Representative | Date

Port of Montreal Representative | Date

The Crown, as represented by the Gov. Of Canada | Date

DTI **Acceptance Tests Form**

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-21	05 10 03	858		612	612	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# image C1	# image C2
TRLU6278402	TRLU6278402	TRLU6278402	TRLU6278402	TRLU6278402	1	1	1				14	16
TRLU6252310	TRLU6252310	TRLU6252310	TRLU6252310	TRLU6252310	1	1	1				14	16
POCU1198567	POCU1*98567	POCU1198567	POCU1198567	POCU1+98567	1	1	1		1		19	21
GLDU0582582	*LDU*582*82	GLDU0582582	MLDU0582582	GLDU3158258	1	0	0		1		19	21
MSCU4189162	MSCU4189162	MSCU4189???	MSCU4189%%%		0	0	0				24	25
CLHU4124948	CLHU4124948	CLHU4124948	CLHU412494%	CLHU4124948	1	1	1				24	25
INBU5119481	INBU5119481	INBU5119481	INBU5119481	INBU5119481	1	1	1				28	30
MSKU8158132	MSKU8158132	MSKU8158132	MSKU8158132	MSKU8158132	1	1	1				28	30
CAXU4087846	CAXU4087846	CAXU4087846	CAXU4087846	CAXU4087846	1	1	1				32	34
TRLU6280354	TRLU6280354	TRLU6280354	TRLU6280354	TRLU6280354	1	1	1				32	34
OCLU1219867	OCLU1219867	OCLU1219867	OCLU1219867	OCLU1219867	1	1	1				36	38
TRIU9666557	TRIU9666557	TRIU9666557	TRIU9666557	TRIU9666557	1	1	1				40	42
FSCU6669034	FSCU6669034	FSCU6669034	FSCU6669034	FSCU6669034	1	1	1				40	42
CLHU8450990	CLHU8450990	CLHU8450990	CLHU8450990	CLHU8450990	1	1	1				45	47
SEAU8518005	SEAU8518005	SEAU8518005	SEAU8518005	SEMU8518005	1	1	0				45	47
TGHU7281083	TGHU7281083	TGHU7281083	TGHU7281083	TGHU7281083	1	1	1				49	51
TRIU9260233	TRIU9260233	TRIU9260233	TRIU9260233	JRIU9260233	1	1	0				49	51
FSCU6378928	FSCU6378928	FSCU6378928	FSCU6378928	FSCU6378928	1	1	1				54	56
PONU7149687	PONU7149687	PONU7149687	PONU7149681	PONU7149687	1	0	1				54	56
TTNU41044**	TTNU41044**	TTNU41044??	TTNU41044%%		0	0	0	1	1	1	58	60
PONU1339709	PONU1339709	PONU1339709	PONU1339709	PONU1339709	1	1	1				58	60
CRXU9537848	CRXU9537848	CRXU9537848	CRXU9537848	CRTU9537848	1	1	0				62	63
TRIU3796105	TRIU3796105	TRIU3796105	TRIU3796105	TRIU3796105	1	1	1				66	67
TTNU212714*	TTNU21271**	TTNU2127142	TTNU212714%	TTNU21271%%	1	1	0	1	1		67	68
MLCU5203278	MLCU5203278	MLCU5203278	MLCU5203278	MLCU5203278	1	1	1				71	73
SEAU8460120	SEAU8460120	SEAU8460120	SEAU8460120	SEAU8460120	1	1	1				71	73
TRLU6258200	TRLU6258200	TRLU6258200	TRLU6258200	TRLU6258200	1	1	1				75	77
SEAU8094632	SEAU8094632	SEAU8094632	SEAU8094632	SEMU9094632	1	1	0				75	77
TTNU9134056	TTNU9134056	TTNU9134056	TTNU9134056	TTHU9134056	1	1	0				79	81
MSKU8219048	MSKU8219048	MSKU8219048	MSKU8219048	MSKU8219048	1	1	1				79	81
POCU7023550	POCU7*23550	POCU7023550	POCU7023550	POCU7623550	1	1	0		1		83	84
UUXU4521052	UUXU4521052	UXXU4521052	UXXU4521052	UXXU4521052	0	0	0				83	84
TRLU4751270	TRLU4751270	TRLU4751270	TRLU4751270	TRLU4751270	1	1	1				86	88
SCZU3240060	SCZU3240060	SCZU3240060	SCZU3240060	!CZU3340060	1	1	0				86	88
OCLU1476778	OCLU1476778	GB?U42510??	GB@U42510%%		0	0	0				91	490
PONU1643943	PONU1643943	IILU3655294	IILU3655291		0	0	0				91	490
GSTU*404992	GSTU9404992	GELU0411211	CSTU0404992	@ELU0411211	0	0	0	1			492	493
TRLU4523671	*RLU452*671	TRLU4523671	TRLU4523671	@IIU152+10%	1	1	0		1		492	493
TTNU47486**	TTNU47486**	??NU4748???	TTNU47489%%	IINU47486%%	0	0	0	1	1	1	495	496
PONU1317192	PONU1317192	PONU1317192	PONU1317192	PONU1317192	1	1	1				495	496
*CZU5*3*080	**ZU**358**	?CZU53080??	@CZU53080%%		0	0	0	1	1	1	499	501
INBU4653316	INBU4653316	INBU4653316	INBU4653316	INBU4653316	1	1	1				499	501
FSCU6526054	FSCU6526054	FSCU6526054	FSCU652605%	FSCU6526054	1	1	1				502	504
GLDU4027696	GLDU4027696	GLDU4027696	GLDU40278%%	GLDU4027696	1	0	1				502	504
MSCU8086202	MSCU8086202	MSCU8086202	MSCU8086202	MSCU8086202	1	1	1				506	508
MSCU4272868	MSCU4272868	MSCU4272868	MSCU4272868	MSCU4272868	1	1	1				506	508
MSCU4105346	MSCU4105346	MSCU41053??		MSCU41053%%	0	0	0				509	511
POCU12279*4	POCU1227984	POCU1227984	POCU1227954	POGU1220904	1	0	0	1			509	511
MAEU8024623	MAEU8024623	MAEU8024623	MAEU8024623	MAEU8024623	1	1	1				513	515
PONU1432869	PONU1432869	PONU1432869	PONU1432869	PONU1432869	1	1	1				513	515
*CCU4006*89	GCCU4006*89	GCCU4006789	GCCU4006789	CCCU4006+89	1	1	0	1	1		517	519
OCLU1460180	OCLU1*60180	OCLU1460180	OCLU1460180	OCLU1460180	1	1	1		1		517	519
PONU7244730	PONU7244730	PONU7244730	PONU7244730	PONU7244730	1	1	1				521	523
PONU1351*04	PONU1351704	PONU6135170	PONU1351104	PONU6135170	0	0	0	1			521	523
CAXU4983992	CAXU4983992	CAXU4983992	CAXU4983992	CAXU4983992	1	1	1				525	527
PONU1467000	PONU1467000	PONU1467000	PONU1467000	PONU1467000	1	1	1				525	527
MSCU8919016	MSCU8919016	MSCU8919016	MSCU8919016	MSCU8919016	1	1	1				528	530
***********	CSTU6736360	GSTU6736360		CSTU6736360	0	0	1	1			528	530
TEXU741198*	TEXU74119**	TEXU7411980	TEXU741198%	TEXU74119%%	1	1	0	1	1		532	534
PONU1390510	PONU1390510	PONU1390510	PONU1390510	OIIU0140001	1	1	0				532	534
MSKU8146933	MSKU8146933	MSKU8146933	MSKU81469%%	MSKU8146933	1	0	1				536	538
MSCU8722109	MSCU8722109	MSCU8722109	MSCU872210%	MSCU8722109	1	1	1				536	538
TRIU9333670	TRIU9333670	TRIU9333670	TR+U9333670	TRIU9333670	1	1	1				541	542
*C**1359302	OCLU1359302	???????????	IH+U60+4310	OCLU15593%%	0	0	0	1			541	542
PONU7503086	PONU7503086	PONU7503086	PONU7503086	PONU7503086	1	1	1				545	547

MSKU8291037	MSKU8291037	MSKU8291037	MSKU8291037	@NSU8291037	1	1	0				545	547
FSCU6580733	FSCU6580733	FSCU6580733	FSCU6580733	FSCU6580733	1	1	1				550	552
TTNU9929509	TTNU9929509	TTNU9929509	TTNU9929509	TTNU929508%	1	1	0				550	552
TTNU9249040	TTNU9249040	TTNU9249040	TTNU924904%	TTNU9249040	1	1	1				554	556
CRXU4433497	CRXU4433497	CRXU4433497	CRXU4433490	CRXU4433497	1	0	1				554	556
GSTU7270127	GSTU7270127	GSTU7270127	GSTU7270127	GSTU7270127	1	1	1				559	561
TRIU5501179	TRIU5501179	TRIU5501179	TRNU5501%%%	TRIU5501179	1	0	1				559	561
MAEU8376877	MAEU8376877	MAEU8376877	MAEU8376877	MAEU8376877	1	1	1				564	566
INBU464866*	IN*U*6*866*	INBU4668661		INBU4668665	1	0	0	1	1		564	566
MAEU8180436	MAEU8180436	MAEU8180436	MAEU8180436	MAMU8180485	1	1	0				568	569
TRLU5399380	TRLU5399380	TRLU5399380	IRLU5399380	IRLU5399380	1	0	0				568	569
MSCU8765332	MSCU8765332	MSCU8765332	MSCU8765332	MSCU8765330	1	1	0				571	573
MAEU8161842	MAEU**61842	MAEU2061846	@MLU8161845	MAEU2061842	0	0	0		1		571	573
CAXU9658547	*AXU965*54*	CAXU9658547	CAXU9658547	CAXU1653547	1	1	0		1		576	578
*RLU9608335	FRLU9608*35	FRLU9608335	FRLU9608335	FRLU9608335	1	1	1	1	1		576	578
PONU7263112	PONU7263112	PONU7263112	PONU7263112	PONU7263118	1	1	0				580	582
MSCU8035247	MSCU8035247	MSCU8035247	MSCU803524%	MSCU8035247	1	1	1				580	582
MSCU8107305	MSCU8107305	MSCU8107305	MSCU8107305	MSCU8107305	1	1	1				585	587
FSCU6568023	FSCU6568023	FSCU6568023	FSCU6568023	FSCU6568023	1	1	1				585	587
TRLU5442018	TRLU5442018	TRLU5442018	TRLU5442018	TRLU5442018	1	1	1				589	591
PONU7511190	PONU7511190	PONU7511190	PONU751119%	PONU7611190	1	1	0				589	591
GESU4374277	GESU4374277	GESU4342773	GESU434277%	GESU1374277	0	0	0				594	595
SEAU8353287	SEAU8353287	?OOU?0?0???	@OOU0030300	POOU90400%%	0	0	0				594	595
INBU3748090	INBU3748090	INBU3748090	INBU37480%%	INBU3748090	1	1	1				598	599
TRIU5179150	TRIU5179150	TRIU5179150		TRIU5179150	1	0	1				598	600
HLXU2029854	HLXU2029854	HLXU2029854	HLXU2029854	HLCU2029854	1	1	0				600	600
NYKU2342*4*	NYKU2342845	NYKU2342845	NYKU2342846	VKIU2342845	1	0	0	1			603	603
TRLU6212745	TRLU6212745	TRLU6212745	TRLU6212745	TRLU6212745	1	1	1				603	605
POCU0002751	POCU0002751	POCU0002751	POCU0002751	POCU0002751	1	1	1				604	605
TPHU6683384	TPHU6683384	TPHU6683384	TPHU6683384	TPHU6683384	1	1	1				607	607
FSCU4233910	FS*U42*3910	FSCU4233910	FSCU4233910	FS+U4293910	1	1	0		1		607	609
X*R*2046029	X*R*2046029	XTRU2046029	XTRU2046029	XIRU2046020	1	1	0	1	1		608	609

Nb. of containers	97	Match Code ID	82		
Nb. Of Invalid	3	Match Code ID C1	71	Nb. Of Invalid C1	15
Nb. Of Valid	94	Match Code ID C2	56	Nb. Of Invalid C2	17
Perfect match code	49				

	C1	C2	PoM	TOTAL
Accuracy :	86,59%	70,00%	87,23%	84,54%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown, as represented by the Gov. Of Canada — Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAE
2003-03-21	12 55 36	861		375	375	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consis*	Code ID C1	Code ID C2	PoM Match	Code ID C1 Match	Code ID C2 Match	Invalid C1	Invalid C2	Invalid	# image C1	# image C2
MSCU2305140	MSCU2305140	MSCU2305140	MSCU2305140		1	1	0				11	10
TTNU2540599	TTNU2540599	TTNU2540599	TTNU2540599		1	1	0				13	12
PONU7206792	PONU7206792	PONU7206792	PONU7206792	PONU7206792	1	1	1				16	14
*RIU9053621	TRIU9053621	TRIU9053621	@RIU9053621	TRIU9053621	1	1	1	1			20	18
MSCU8425939	MSCU8425939	MSCU8425939	MSCU8425939	MSCU8425939	1	1	1				24	21
CRXU4455557	CRXU4455557	CRXU4455557	CRXU4455551	CRXU4455557	1	0	1				28	25
MSCU8134044	MSCU8134044	MSCU8134044	MSCU813404%	MSCU8134044	1	1	1				32	30
CRXU4809840	CRXU4809840	CRXU4809840	CRXU4809840	CRXU4809840	1	1	1				32	30
HLXU6049519	HLXU6049519	HLXU6049519	HLXU6049519	HLXU6049519	1	1	1				37	35
PO*U1612829	PONU1612829	PONU1612829	PO+U1612829	PONU1612829	1	1	1	1			37	35
HLCU4211271	HLCU4211271	HLCU4211271	HLCU4211271	HLCU4211271	1	1	1				43	40
HLXU4429401	HLXU4429401	HLXU4429401	HLXU4429401	HLXU4429401	1	1	1				43	40
FRLU9607914	FRLU9607914	FRLU9607914	FRLU9607914	FRLU9607914	1	1	1				48	46
PONU7152280	*ONU7152280	PONU7152280	PONU7152280	PONU7152280	1	1	1		1		48	46
PONU7503276	PONU7503276	PONU7503276	PONU7603276	PONU7503276	1	0	1				52	50
CRXU4929091	CRXU4929091	CRXU4929091	CRXU4929091	CRXU4929091	1	1	1				52	50
PONU0890430	PONU0890430	PONU0890430	PONU0890430	PONU0890430	1	1	1				55	54
HLXU215998*	HLXU2159987	HLXU2159987	HLXU2159980	HLXU2159987	1	0	1	1			56	55
GSTU7855472	GSTU7855472	GSTU7855472	GSTU7855472	GSTU7855472	1	1	1				56	54
MAEU6375423	MAEU6375423	MAEU6375423		MAEU6375423	1	0	1				62	59
CLHU4043018	CLHU4043018	CLHU4043018	CLHU4043018	CLHU4043018	1	1	1				62	59
MAEU6098592	MAEU6098592	MAEU6098592	MAEU6098502	MAEU6098592	1	0	1				66	64
MAEU7002804	MAEU7002804	MAEU7002804	MAEU7002104	AAEU7002804	1	0	0				66	64
HLXU6107106 -	HLXU6107106	HLXU6107106	HLXU6107106	HLXU6107106	1	1	1				70	68
MSCU4063*80	MSCU4063580	MSCU4063580	MSCU4063+80	MSCU4063580	1	1	1	1			70	68
MAEU5791215	MAEU5791215	MAEU5791215	IAEU5791215	MAEU5791215	1	0	1				76	74
CRXU4079320	C*XU4079320	CRXU4079320	CRXU407930%	CPXU4079320	1	0	0		1		76	74
TOLU5876873	TOLU5876873	TOLU5876831	TOLU5876873	TOLU5876831	0	1	0				81	78
***********	CNGU00889*				0	0	0	1	1	1	81	78
MAEU5786651	MAEU5786651	AOEU5786658	AAEU5786654	AOEU5786651	0	0	0				85	83
TOLU7601427	TOLU7601427	TOLU7601427	TOLU7601427	TOLU7601427	1	1	1				85	83
*RLU3304339	TRLU3304339	TRLU3304339	TRLU3304339	TRLU3304339	1	1	1	1			89	88
CRXU2221591	CR*U22*1591	CRXU2221591	CRXU2221591	CRKU2221591	1	1	0		1		90	90
HLXU6111317	HLXU6111317	HLXU6111317	HLXU6111317	HLXU6111317	1	1	1				90	88
GSTU3068864	GSTU3068864	GSTU3068864	GSTU3068864	GSTU3068864	1	1	1				93	92
ITLU8238021	ITLU8238021	ITLU8238021	ITLU8238021	ITLU8238021	1	1	1				94	94
MSCU8259904	MSCU8259904	MSGU8759904	MSCU8759904	MSCU825990%	0	0	1				94	92
TRIU3105179	TRIU3105179	TRIU3105179	TR+U3105179	TRIU3105179	1	1	1				97	96
MSCU2095552	MSCU2095552	MSCU2095552	MSCU2095552	NSCU2095552	1	1	0				99	98
MAEU6399451	MAEU6399451	MAEU6399451	MAEU6399451	MAEU6399451	1	1	1				99	96
MSCU282643*	MSCU2826430	MSCU2826430	ISCU2826430	MSCU282643%	1	0	1	1			101	100
MSCU2034731	MSCU2034731	MSCU2034731	MSCU2034731	MSCU2034731	1	1	1				102	102
PONU7650322	PONU7650322	PONU7650322	PONU7650322	PONU7650322	1	1	1				102	100
GCEU4401230	GCEU4401230	GCEU4401230	GCEU4401230	GCEU4401230	1	1	1				105	104
APMU2745881	APMU2745881	APMU2745881	APMU2745881	APMU2745881	1	1	1				107	106
PRSU4024041	PRSU4024041	PRSU4024041	PRSU4024041	PRSU4024041	1	1	1				107	104
TRLU6269308	TRLU6269308	TRLU6269308	TRLU6269308	TRLU6269308	1	1	1				112	110
TGHU7029003	TGHU7029003	TGHU7029003	TGHU702900%	TGHU7029003	1	1	1				112	110
CAXU9593507	CAXU95935*7	CAXU9593507	@@XU9593507	CAXU9593562	1	0	0		1		117	115
HLXU4167575	HLXU4167575	HLXU4167575	HLXU4167575	HLXU4167575	1	1	1				117	115
PONU7672614	PONU7672614	PONU7672614	PONU7672614	PONU7672614	1	1	1				123	120
TPHU4737624	TPHU4737624	TPMU4737626	TPMU4737624	TPMU4737624	0	0	0				123	120
ICSU6984702	ICSU6984702	ICSU6984702	ICSU6984702	ICSU6984702	1	1	1				128	126
POCU1211381	POCU1*11381	POCU2111387	POCU2111381	POCU1+11381	0	0	0		1		128	126
TOLU1533290	TOLU1533290	TOLU1533290	TOLU1533290	TOLU1533290	1	1	1				133	131
TPHU4828940	TPHU4828940	TPHU4828940	TPHU4828940	TPHU4828940	1	1	1				133	131
CAXU2244191	CAXU2244191	CAXU2244191	CAXU2244191	CAXU2244191	1	1	1				137	136
ITLU69898**	ITLU*98987*	????????????	ITLU69898%%	*IGU989871%	0	0	0	1	1		138	137
MSCU4108216	MSCU4108216	MSCU4108216	MSCU4108216	MSCU4108216	1	1	1				138	136
CRXU4297805	CRXU4297805	CRXU4297805	CRXU4297805	CRXU4297805	1	1	1				143	141
HLXU6062125	HLXU6062125	HLXU6062125	HLXU6062125	HLXU6062125	1	1	1				143	141
GSTU3605393	GSTU3605*93	GSTU3605393	GSTU3605393	GSTU3605393	1	1	1		1		147	146
TRLU9004874	TRLU9004874	TRLU9004874	TRLU9004874	TRLU9004874	1	1	1				148	147
POCU4211106	POCU4211106	POCU4211106	POCU4211111	POCU4211106	1	0	1				148	146
*AEU7282290	MAEU7282290	MAEU7282290	@AEU7282290	MAEU7282290	1	1	1	1			153	151

HLC*4538*29	HLCU4538*29	HLCU4538829	HLCU4538829	HLCU4538629	1	1	0	1	1		153	151
HLCU2648262	HLCU2648262	HLCU2648262	HLCU2648262	HLCU2648262	1	1	1				157	156
TOLU4400100	TOLU4400100	TOLU4400100	TOLU4311111	TOLU4400100	1	0	1				158	158
HLCU4205392	HLCU4205392	HLCU4205392	HLCU205392%	HLCU4205392	1	0	1				158	156
HLXU2610046	HLXU2610046	HLXU2610046	HLXU2610046	HLXU2610046	1	1	1				162	161
TTNU287680*	TTNU28768**	TTHU2876802	TTHU287680%	TTNU28768%%	0	0	0	1	1	1	164	163
HLXU4393910	HLXU4393910	HLXU4393910	HLXU4393910	HLXU4393910	1	1	1				164	161
GSTU2579010	GSTU2579**0	GSTU2579010	GSTU2579010	GSTU257900%	1	1	0		1		168	167
MSCU1198242	MSCU1198242	MSCU1198242		MSCU1198242	1	0	1				169	168
CAXU4265362	CAXU4265362	CAXU4265362	CAXU4265362	CLXU4265362	1	1	0				169	167
HLXU2156334	HLXU215633*	HLXU2156334	HLXU2156334	HLKU215633%	1	1	0		1		173	172
HLXU2035815	HLXU2035815	HLXU2035815	HLXU2035815	HLXU2035815	1	1	1				175	174
INKU2898539	INKU2898539	INKU2898539	INKU2898539	INKU2898539	1	1	1				175	172
INBU378414*	INBU3784142	INBU3784142	INBU378414%	INBU3784142	1	1	1	1			179	178
HLCU2070*18	HLCU2070*18	HLCU2070718	HLCU2070+18	HLCU2070+18	1	1	1	1	1		180	179
MSCU4189270	MSCU4189270	MSCU4189270	MSCU4189270	MSCU4189270	1	1	1				180	178
MSCU1567926	MSCU1567926	MSCU1567926	MSCU1562926	MSCU1567926	1	0	1				184	184
WFHU1174032	WFHU1174032	WFHU1174032	WFHU1174032	XFHU1174032	1	1	0				186	185
SEAU2310333	SEAU2310333	SEAU2310333	SEAU2336786	SEAU2310333	1	0	1				189	189
SEAU2336786	SEAU2336786	SEAU2336786	SEAU2310333	SEAU2336786	1	0	1				191	190
POCU0378728	POCU0378728	POCU0378728	POCU0378728	POCU0378728	1	1	1				194	193
GLDU0201372	GLDU0201372	GLDU0201372	GLDU0201372	GLOU0201372	1	1	0				196	195
MAEU4558805	MAEU4558805	MAEU4558805	MAEU4558805	MAEU4558805	1	1	1				196	193
MSCU1129200	MSCU1129200	MSCU1129703		MSCU1129700	0	0	0				199	198
MAEU6970560	MAEU6970560	MAEU6970560		MAEU6970560	1	0	1				201	200
SEAU8*3*655	SEAU8732655	SEAU8732655	SEAU8+33655	SEAU8732655	1	0	1	1			201	198
MSKU2372635	MSKU2372635	MSKU2372635	MSKU2372635		1	1	0				206	205
MSCU2631819	MSCU2631819	MSCU2631819	MSCU2631819	MSCU2631%%%	1	1	0				204	203
GLDU0527287	GLDU0527287	GLDU0527287	GLOU0527287	GLDU0527287	1	0	1				211	209
MAEU4530069	MAEU4530069	MAEU4530069	MAEU4530069	MAEU4530069	1	1	1				211	209
TRIU3736410	TRIU3736410	TRIU3736410	TRIU3736410	TRIU3756410	1	1	0				214	213
TTNU293332*	TTNU293332*	TTNU2933322	@INU293332%	TTNU293332%	1	0	1	1	1		215	214
MAEU4572681	MAEJ4572681	MAEU4572681	MAEU4572681	MAEU4572681	1	1	1				215	213
****4203490	****4203490	OOIU8043104	OOIU804310%		0	0	0	1	1	1	219	217
TPHU8324660	TPHU8324660	TPHU8324660	TPHU8324660	TPHU8324660	1	1	1				218	217
GSTU4789654	GSTU47*9654	GSTU4789654	GSTU4789654	GSTU4709654	1	1	0		1		219	218
MAEU8278150	MAEU8278150	MAEU8278150	MAEU827815%	MAEU8278150	1	1	1				223	221
CRXU4818797	CRXU4818797	CRXU4818797	CRXU4818797	CRXU4818797	1	1	1				223	221
TPHU5214485	TPHU5214485	TPHU5214485	TPHU5214485	TPHU5214485	1	1	1				227	225
MSKU8184189	MSKU8184189	MSKU8184189	MSKU8184189	MSKU8181189	1	1	0				227	225
TRLU3606508	TRLU3606508	TRLU3606508	TRLU3606508	TRLU3606508	1	1	1				230	230
CAXU292719*	CAXU2927198	CAXU2927198	CAXU2927198	CAXU292719%	1	1	1	1			232	231
PONU7662299	PONU7662299	PONU7662299	PONU7662299	PONU7662299	1	1	1				235	233
MSKU6194906	MSKU6194906	MSKU6194906	MSKU6194906	MSKU6194906	1	1	1				239	237
TEXU4796240	TEXU4796240	TEXU4796240	TEXU4796240	TEXU4796240	1	1	1				243	240
APMU2769733	APMU2769733	APMU2769733	APMU2769733	APMU2769733	1	1	1				245	244
MSKU2276740	MSKU2276740	MSKU2276740		MSKU2276740	1	0	1				247	246
SCMU4033195	SCMU4033195	SCMU4033195	SCMU4033195	SCJU4033195	1	1	0				251	248
MAEU6114918	MAEU6114918	MAEU6114918	MAEU6114918	MAEU6114918	1	1	1				255	253
TEXU7205906	TEXU7205906	TEXU7205906	TEXU7205906	TEXU7205906	1	1	1				260	258
******22**3	***U**22**3	???????????	@@LU522073%	@@NU62046%%	0	0	0	1	1	1	263	262
POCU0412139	POCU0*12139	POCU0412139	POCU0412139	POCU0+12139	1	1	1		1		264	263
MAEU8299282	MAEU8299282	MAEU8299282	MAEU8299282	MAEU8299282	1	1	1				264	262
POCU0*18919	POCU0318919	POCU0318919	POCU0318919	POCU0318919	1	1	1	1			267	266
TRLU2853437	TRLU2853437	TRLU2853437	TRLU2853437	TRLU2853430	1	1	0				268	268
CAXU704522*	CAXU7045227	CAXU7045227	@@XU7045227	CAXU7045223	1	0	0	1			268	266
TTNU55594**	TTNU55594**	TTNU55594??	TTNU55594%%	TTNU55594%%	0	0	0	1	1	1	272	270
UESU4619096	UESU4619096	UESU4619096	UESU461909%	UESU461909%	1	1	1				272	270
MAEU7290850	MAEU7290850	MAEU7290850	MAEU7290850		1	1	0				276	274
UESU4578660	UESU4578660	UESU4578660	UESU4578660	UESU4578660	1	1	1				276	274
TTNU9480254	TTNU9480254	TTNU9480254	TTNU9480254	TTNU9480254	1	1	1				280	278
SEAU7803456	SEAU7803456	SEAU7803456	SEAU7803456	SEAU78034%%	1	1	0				280	278
SCMU2084608	SCMU2084608	SCMU2084608	SCMU2084608	SCMU2084608	1	1	1				288	287
SAMU4004015	SAMU4004015	SAMU4004015		SAMU4004015	1	0	1				285	283
MSKU2601109	MSKU2601109	MSKU2601109		MSKU2601109	1	0	1				286	285
SEAU7815138	SEAU7815138	SEAU7865139	SEAU7815131	SEAU7865138	0	0	0				300	297
UESU4582377	UESU4582377	UESU4582377	UESU458237%	UESU458237%	1	1	1				300	297
MSKU8028*44	MSKU8028144	MSKU8028144	MSKU8028%%%	TSKU8028144	1	0	0	1			304	302
TRLU6246046	TRLU6246046	TRLU6246046	TRLU6246046	TRLU6246046	1	1	1				304	302
GLDU0507146	GLDU0507146	GLDU0507146	CLDU0507148	GLDU0507146	1	0	1				309	307

MSCU4613347	MSCU4613347	MSCU4613347	MSCU4613347	MSCU4613347	1	1	1				309	307
UESU4103160	UESU4103160	UESU4103160	UESU4103160	UESU4103160	1	1	1				314	312
PONU1466473	PONU1466473	PONU1466473	PONU1466473	PONU1466473	1	1	1				214	312
SCMU2043511	SCMU2043511	SCMU2043511	SCMU2043511	SCMU2043511	1	1	1				317	316
SEAU2219413	SEAU22*9413	SEAU2219413	SEAU2219413	SEAU22+9413	1	1	1		1		318	318
GLDU0452510	GLDU0452*10	GLDU0452510	GLDU0452510	GLDU0452+10	1	1	1		1		318	316
MSKU2373879	MSKU2373879	MSKU2373879	MSKU2373879	MSKU2373879	1	1	1				321	320
NYKU2913121	NYKU2913121	NYKU2913121	NYKU2913111	MYMU2913121	1	0	0				323	322
NYKU6218365	NYKU6218365	NYKU6218365	NYKU6218365	NYKU6218365	1	1	1				323	320
HLCU4122554	********55*	HLCU4128552	HLCU4128554		0	0	0		1		328	326
TRIU4640668	T*IU4640668	TRIU4640668	TRIU4640668	TUIU4660668	1	1	0		1		337	334
MSCU4128995	MSCU4128995	MSCU4128995	MSCU4128995	MSCU4128995	1	1	1				345	343
GSTU7389570	GSTU7389570	GSTU7389570	GSTU7389570	GSTU7389570	1	1	1				356	353
HLXU4080480	HLXU408048*	HLXU4080480	HLKU4080480	HLXU4080489	1	0	0		1		360	357
GATU4236307	GATU4236307	GATU4236307	GATU4236307	GATU4236307	1	1	1				364	361
GATU4116678	GATU4116678	GATU4116678	GATU4116678	GATU4116678	1	1	1				372	370

Nb. of containers	150	Match Code ID	137		
Nb. Of invalid	5	Match Code ID C1	109	Nb. Of invalid C1	21
Nb. Of Valid	145	Match Code ID C2	111	Nb. Of invalid C2	23
Perfect match code	87				

	C1	C2	PoM	TOTAL
Accuracy :	84,50%	87,40%	94,48%	91,33%

DTI Representative Date

Port of Montreal Representative Date

The Crown, as represented by the Gov. Of Canada Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-21	15 47 58	863		303	303	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
MSCU2157680	MSCU2157680	MSCU2157680	MSCU2157680	MSCU12622%%	1	1	0				10	10
MSCU126224*	MSCU126224*	MSCU1262249	MSCU126224%	MSCU215768%	1	1	0	1	1		11	12
HLXU6165587	HLXU6165587	HLXU6165587	HLXU6165587	HLXU6165587	1	1	1				10	12
HLCU2243388	HLCU2243388	HLCU2243388	HLCU2243389	HLCU2243388	1	0	1				15	15
GATU0416297	GATU0416297	GATU0416297	GATU0416297	GATU0416297	1	1	1				16	17
HLXU4672108	HLXU4672108	HLXU4672108	HLXU4672108	HLXU4672108	1	1	1				15	17
HLCU2*08399	H*CU2*08399	HLCU8083918	HLCU8083919	HLCU8083919	0	0	0	1	1	1	19	20
H*CU2002*85	HLCU2002185	HICU2002071	HICU2002078	@LCU2002185	0	0	0	1			21	22
PONU7361150	PONU7361150	PONU7361150	PONU7361150	PONU7361150	1	1	1				19	22
HLXU4672659	HLXU4672659	HLXU4672659	HLXU4672659	HLXU4672659	1	1	1				24	26
***********	HLXU6174594	HLXU6174594	RCXU5364779	HLXU6174594	1	0	1	1			24	26
HLXU4023963	HLXU4023963	HLXU4023963	HLXU4023963	HLXU4023963	1	1	1				29	31
GATU8376396	GATU8376396	GATU8376396	GATU8376396	GATU8376396	1	1	1				33	35
HLXU4117363	HLXU4117363	HLXU4117363	HLXU4117363	HLXU4117363	1	1	1				33	35
POCU7048780	POCU7048780	POCU7048780	POCU7048780	POCU7048780	1	1	1				38	40
HLXU4580022	HLXU4580022	HLXU4580022	HLXU4580022	HLXU4580022	1	1	1				42	44
PONU7533558	PONU7533558	PONU7533558	PONU7533558	PONU7533558	1	1	1				42	44
HLXU2343021	HLXU2343021	HLXU2343021	HLXU2343021	HLXU2343021	1	1	1				46	47
OOLU3548530	OOLU3548530	OOLU3548530	OOLU3548530	OOLU3548530	1	1	1				48	48
HL*U26*4025	HL*U2614025	HLCU2614025	HL+U26+4025	HL+U2614025	1	0	0	1	1		50	51
OOLU3624991	OOLU3624991	OOLU3624991	OOLU3624991	OOLU3624991	1	1	1				53	53
HLCU2619217	HLCU2619217	HLCU2619217	HLCU2619212	HLCU619257%	1	0	0				54	55
HLXU4364471	HLXU4364471	HLXU4364471	HLXU4364471	HLIU4364471	1	1	0				56	58
HLXU4514205	HLXU4514205	HLXU4514205	HLXU4514205	HLXU4514205	1	1	1				60	62
GATU8135470	GATU8135470	GATU8135470	GATU8135470	GATU8135470	1	1	1				63	65
TEXU2580334	TEXU2580334	TEXU2580334	TEXU2580334	TEXU258033%	1	1	1				67	67
HLCU2234370	HLCU2234370	HLCU2234370	HLCU2234370	HLCU2234370	1	1	1				68	68
HOTU2415284	HOTU2415284	HOTU2415284	HOTU2415284	HOTU2415280	1	1	0				70	71
HOTU9412081	HOTU9412081	HOTU9412081	HOTU9412081	HOTU9412081	1	1	1				72	72
HOTU9413004	HOTU9413004	HOTU9413004	HOTU9413004	CCRU644188%	1	1	0				74	75
*CRU1644188	CCRU1644188				0	0	0	1			75	76
HLCU2212068	HLCU2212068	HLCU2212068	HLCU2212068	HLCU2212068	1	1	1				77	78
HLXU2223113	HLXU2223113	HLXU2223113	HLXU2223113	HLXU2223113	1	1	1				79	79
H*CU2*17370	HLCU26*7370	HLCU2617370	HICU2117370	HLCU2617370	1	0	1	1	1		82	83
HLXU2328177	HLXU2328177	HLXU2328177	HLXU2328177	HLXU2328177	1	1	1				83	84
HLXU4151671	H*XU4151671	HLXU4151671	HLXU4151671	HUXU4151671	1	1	0		1		82	84
TRIU2325***	TRIU2325420	TRIU2325420	TRIU2325420	TRIU2325420	1	1	1	1			87	87
INBU3070016	INBU3070016	INBU3070016	INBU3670016	INBU3070016	1	0	1				86	89
GATU4157255	GATU4157255	GATU4157255	GATU4157255	GATU4157255	1	1	1				87	89
OOLU3409181	OOLU3409181	OOLU3409181	OOLU3409181	OOLU3409181	1	1	1				91	92
HLXU2231525	HLXU2231525	HLXU2231525	HLXU2231525	HLXU2231525	1	1	1				92	93
INBU523221*	INBU5232*19	INBU5232219	INBU5232219	INBU5232719	1	1	0	1	1		91	93
POCU0039555	POCU0039555	POCU0039555	POCU0039555	POCU0039555	1	1	1				96	97
HLXU2162358	HLXU2162358	HLXU2162358	HLXU2162358	HLXU2162358	1	1	1				97	98
HLCU2157530	HLCU2157530	HLCU2157530	HLCU2157530	HLCU2157530	1	1	1				100	101
OOLU3380663	OOLU3380663	OOLU3380663	OOLU3380663	OOLU3380663	1	1	1				101	102
H*CU2*04053	HLCU2604053	HLCU2604053	ILCU2604053	HLCU0604053	1	0	0	1			104	104
MLCU2921780	MLCU2921780	MLCU2921780	MLCU2921780	MLCU2921780	1	1	1				105	106
HLXU4140682	HLXU4140682	HLXU4140682	HLXU4140682	HLXU4140682	1	1	1				106	110
HLCU4224622	HLCU4224622	HLCU4224622	HLCU422462%	HLCU4224622	1	1	1				111	113
HLXU458307*	HLXU458307*	HLXU4583079	HLXU4583071	HLXU4583079	1	0	1	1	1		111	113
HLCU4216592	HLCU421***2	HLCU4216592	HLCU4216590	HLCU4216092	1	0	0		1		115	116
HLCU4237403	HLCU4237403	HLCU4237403	HLCU4237401	HLCU4237403	1	0	1				118	120
OOLU5139228	OOLU5139228	OOLU5139228	OOLU5139228	OOLU5139228	1	1	1				118	120
HLXU4780226	HLXU4780226	HLXU4780226	HLXU4780226	HLXU4780226	1	1	1				121	123
KNLU5119082	KNLU5119082	KNLU5119082	KMLU3119082	KNLU5113082	1	0	0				125	126
NDLU4011517	NDLU*0*1517	NDLU4011517	NDLU4011517	@@MU484310%	1	1	0		1		125	126
MSKU8069349	MSKU8069349	MSKU8069349	NSKU8069349	MSKU8069349	1	0	1				129	131
TTNU4745582	TTNU4745582	TTNU4745582	TTNU474558%	TINU4745582	1	1	0				129	131
GSTU8565689	GSTU*5656*9	GSTU8565689	GSTU8565688	GSTU565688%	1	0	0		1		133	135
PONU7486841	PONU7486841	PONU7486841	PONU7486841	PONU7486841	1	1	1				133	135
KNLU4322794	KNL*4322794	KNLU4322794	KNLU4322794	KNLU4322794	1	1	1		1		136	140
TO*U*628498	TOLU3628498	TOLU3628498	TOLU3628498	TOLU3628498	1	1	1	1			138	140
POCU1192255	POCU1192255	POCU1192255	POCU1192255	POCU1192255	1	1	1				142	144
MSKU8218057	MSKU8218057	MSKU8218057	SKIU8218057	MSKU8218057	1	0	1				142	144

TPHU5119580	TPHU5119580	TPHU5119580	TPHU5119580	TPHU5119580	1	1	1				147	149
MLCU4734578	M*CU4734578	MLCU4734578	MLCU4734578	MECU4734578	1	1	0		1		147	149
KNLU4282710	KNLU4282710	XNLU4282714	XNLU4282710	XNLU4282710	0	0	0				150	152
SEAU8240090	SEAU8240090	SEAU8240090	SEAU8240090	SEAU8240097	1	1	0				150	152
OCLU1*31687	OCLU1331687	OCLU1331687	OCLU1331687	OCLU1331687	1	1	1	1			154	155
TEXU7195217	TEXU7195217	TEXU7195217	TEXU7195217	TEXU7195217	1	1	1				154	155
KNLU4315814	KNLU4315814	KNLU4315814	KNLU4315814	KNLU4315814	1	1	1				157	159
SEAU8050491	SEAU8050491	SEAU8050491	SEAU8050491	SEAU8050491	1	1	1				157	159
SEAU4857248	SEAU4857248	SEAU4857248	SEAU4857248	SEAU4857248	1	1	1				160	162
SEAU8073603	SEAU8073603	SEVU8073600	SEVU8073601	SEAU8073603	0	0	1				160	162
SEAU4814884	SEAU4814884	SEAU4814884	SEAU4814884	SEAU4814884	1	1	1				164	166
MAEU4553803	MAEU4553803	MAEU4553803		MAEU4553803	1	0	1				168	170
KNLU4278813	*NLU42*8813	LNLU4278815	LNLU4278813	UOMU2224%%%	0	0	0		1		172	174
TRIU5724681	TRIU5724681	TRIU5724681	TR+U5724681	TRIU5724681	1	1	1				175	177
SEAU7851372	SEAU7851372	SEAU7851372	SEAU7851371	SEAU785137%	1	0	1				178	180
TRIU5684399	TR*U56*4399	TRIU5684399	TRIU5684399	TRTU5684399	1	1	0		1		181	183
TRLU4005137	TRLU4005137	TRLU4005137	TRLU4005137	TRLU4005137	1	1	1				181	183
MSCU4181855	MSCU4181855	MSCU4181855		MSCU4181855	1	0	1				185	187
KNLU5057123	KNLU5057123	KNLU5057123	KNLU5057123	XNLU5057123	1	1	0				185	187
GSTU7367*09	***********	GSTU7367605	GSTU7367609		0	0	0	1	1	1	188	190
MAEU8043921	MAEU8043921	MAEU8043921	MAEU8043921	MAEU8043921	1	1	1				188	190
TEXU4812070	TEXU4812070	TEXU4812070	TEXU4812070	TEXU4812070	1	1	1				192	193
GESU4502207	GESU4502207	GESU4502207	GESU4502207	GESU4502217	1	1	0				192	193
TTNU520829*	TTNU52082**	TTNU5208295	TTNU520829%	TTNU52082%%	1	1	0	1	1		195	197
GESU4201060	GESU4201060	GESU4201060	GESU4201060	GESU4201000	1	1	0				195	197
POCU7057442	POCU7057442	POCU7057442	POCU7057442	POCU7057442	1	1	1				200	202
MSKU8122485	MSKU*122485	MSKU8122485	MSKU8122485	MSKU8122485	1	1	1		1		200	202
POCU1104742	POCU1*04742	POCU1104742	POCU1104742	POCU1404742	1	1	0		1		205	207
MSKU8300329	MSKU8300329	MSKU8300329	MSKU8300329	MSKU8300329	1	1	1				205	207
MAEU6161289	MAEU6161289	MAEU6161289	MAEU616128%	IAEU616128%	1	1	0				210	212
MSKU8342480	MSKU8342480	MSKU8342480	MSKU8342480	MSKU8342480	1	1	1				210	212
KNLU5079734	KN*U50*9734	KNLU5079734	KNLU5079734	KNLU5079734	1	1	1		1		214	217
MAEU8284770	MAEU8284770	MAEU8284770	MAEU8284770	DAAU8284770	1	1	0				214	217
INBU4674690	INBU4674690	INBU4674690		INBU4674690	1	0	1				219	222
MSCU8266077	MSCU8266077	MSCU8266077		MSCU8266077	1	0	1				219	222
		INBU4674690	INBU4674690		0	0	0	1	1	1		
		MSCU8266077	MSCU826607%		0	0	0	1	1	1		
PONU7116770	PONU7116770	PONU7116770	PONU7116770	PONU146110%	1	1	0				224	225
CLHU8126466	CLHU8126466	CLHU8126466	CLHU812646%	CLIU8126466	1	1	0				224	225
PONU7156120	PONU7156120	PONU7156120	PONU7856120	PONU1156120	1	0	0				226	227

TPHU5051562	TPHU5051562	TPHU5051562	TPHU5051562	TPHU5051562	1	1	1				226	227
PONU7094671	PONU7094671	PONU7094671	PONU7094671	PONU7094671	1	1	1				229	230
TGHU7530041	TGHU7530041	TGHU7530041	TGHU7530046	TGKU7530041	1	0	0				229	230
PONU1271928	PONU1271928	PONU1271928	PONU1271928	PONU1271928	1	1	1				233	234
GLDU4096845	GLDU4096845	GLOU4096849	GLOU4096849	GLOU4096845	0	0	0				233	234
CLHU8453896	CLHU8453896	CLHU8453896	CLHU8453896	CLHU8453896	1	1	1				236	237
CLHU8147622	CLHU8147622	CLHU8147622	CLHU8147622	CLHU8147622	1	1	1				236	237
TRI*933*970	TRIU9338970	TRIU9338970	TRIU9330970	TRIU9338970	1	0	1	1			239	241
TGHU7338949	TGHU7338949	TGHU7338949	TGHU7338947	TGHU7338949	1	0	1				239	241
PONU1236104	PONU1236104	PONU1236104	PONU1236104	PONU1236104	1	1	1				242	244
PONU7416401	PONU7416401	PONU7416401	PONU7416401	PONU7416401	1	1	1				242	244
TGHU8039639	TGHU8039639	TGHU8039639	TGHU8039639	TGHU8039639	1	1	1				245	247
TRIU5424848	TRIU5424*48	TRIU5424848	TRIU5424848	TRIU5424848	1	1	1		1		245	247
IC*U6**05*5	ICSU6970545	ICSU6970545	ICXU6070545	ICSU6970545	1	0	1	1			250	252
TRIU5209172	TRIU5209172	TRIU5209172	TRIU5209172	TRIU5209172	1	1	1				250	252
KNLU5046664	KNLU5046664	KNLU5046664	KNLU504666%	XNLU5046664	1	1	0				254	256
PONU1501070	PONU1501070	PONU1501070	PONU1501070	PONU1501070	1	1	1				254	256
PONU7240502	PONU7240502	PONU7240502	PONU7240502	PONU7240502	1	1	1				258	260
UESU4579917	UESU4579917	UESU4579917	UESU457991%	UESU457991%	1	1	1				258	260
PONU7242526	PONU7242526	PONU7242526	PONU7242526	PONU7242576	1	1	0				261	262
PONU13971*2	PONU1397182	PONU1397198	PONU1397192	OZIU86001%%	0	0	0	1			261	262
INKU22*1791	INKU2271791	INKU2271791	INKU2271790	INKU2271791	1	0	1	1			264	266
POCU1221414	POCU1221414	POCU1221414	POCU1221414	POCU2214114	1	1	0				264	266
*LDU0539570	GLDU0539570	GLDU0539570	GLOU0539570	GLDU0539570	1	0	1	1			267	269
TTNU5268416	TTNU5268416	TTNU5268416	@@NU5268416	TINU5268%%%	1	0	0				267	269
PONU7538035	PONU7538035	PONU7538035		PONU7538035	1	0	1				271	273
O**********	O*L**1*6*7*	?JJU14300??	@JJU14300%%		0	0	0	1	1	1	274	276
SEAU8527183	SEAU8527183	SEAU8527183	SEAU8527183	SEAU8527183	1	1	1				278	279
POCU7044487	POCU7044487	POCU7044487	POLU7044487	POCU7044487	1	0	1				281	283
POCU7074223	POCU7074223	POCU7074223	POCU7074223	POCU7074223	1	1	1				285	286
TTNU9138447	TTNU9138447	TTNU9138447	TTNU9138447	@@TU913844%	1	1	0				289	291
MAEU8351307	MAEU8351307	MAEU8351307	MAEU8351307	MAEU8351307	1	1	1				289	291
OCLU7*29186	OCLU70291*6	OCLU7029186	OCLU7029186	OCLU7629186	1	1	0	1	1		293	295
MAEU8379855	MAEU8379855	MAEU8379855	MAEU8379855	MAEU8379855	1	1	1				293	295
TEXU4811129	TEXU4811129	TEXU4811129	TEXU4811129	TEXU4811129	1	1	1				298	299
PONU7426884	PONU7426884	PONU7426884	PONU7426884	PONU7426884	1	1	1				298	299

Nb of containers	139	Match Code ID	129		
Nb Of Invalid	3	Match Code ID C1	100	Nb Of Invalid C1	22
Nb Of Valid	136	Match Code ID C2	95	Nb Of Invalid C2	22
Perfect match code	72				

	C1	C2	PoM	TOTAL
Accuracy :	85,47%	81,20%	94,85%	92,81%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown as represented by the Gov. Of Canada — Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-22	23 14 56	868		208	208	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID C1 Match	Code ID C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
EXFU1434676	EXFU1434676				0	0	0				16	15
ZIMU2224668	ZIMU2224668	ZIMU2224668	ZIMU2224668	ZIMU2224669	1	1	0				17	16
UESU4158610	UESU4158610	UESU4158610	UESU4158610	UESU4158610	1	1	1				22	20
PONU1479568	PONU1479568	PONU1479568	PONU1479568	PONU1479568	1	1	1				27	25
PONU7450828	PONU7450828	PONU7450828	POMU7450828	PONU7450828	1	0	1				33	31
TGHU4057465	TGHU4057465	TGHU4057465	TGHU40579%%	TGHU405746%	1	0	1				33	31
TPHU5282129	TPHU5282129	TPHU5282129	TPHU5282129	TPHU5282129	1	1	1				37	35
GLDU0433613	GLDU0433613	GLDU0433613	GLDU0433613	GLDU0433613	1	1	1				37	35
SEAU8096424	SEAU8096424	SEAU8096424	SEAU8096421	SEAU8096424	1	0	1				42	39
TRIU9674531	TRIU9674531	TRIU9674531	TRIU9674531	TRIU9674531	1	1	1				42	39
HLXU4532868	HLXU4532868	HLXU4532868	HLXU4532868	HLXU4532868	1	1	1				46	44
GSTU2620834	GSTU2620834	GSTU2620834	GSTU262083%	GSTU2620834	1	1	1				49	49
HLXU4564799	HLXU4564799	HLXU4564799		HLXU4564799	1	0	1				53	51
INKU2634916	INKU2634916	INKU2634916	INKU2634916		1	1	0				57	55
PONU7324774	PONU7324774	PONU7324774		PONU7324774	1	0	1				53	51
PONU7506450	PONU7506450	PONU7506450	PONU7506450		1	1	0				57	55
		INKU2634916	HLXU4564799	INKU2634916	0	0	0	1	1	1		
		PONU7506450	PONU7324774	PONU7506450	0	0	0	1	1	1		
MAEU8051341	MAEU8051341	MAEU8051341	AAEU8051341	IAEU8051341	1	0	0				61	58
MSKU8000390	MSKU8000390	MSKU8000390	MSKU8000390	MSKU8000390	1	1	1				61	58
MAEU8205581	MAEU8205581	MAEU8205581	IAEU8205581	OAEU8205891	1	0	0				64	62
PONU7545230	PONU7545230	PONU7545230	PONU7545230	PONU7545230	1	1	1				64	62
MAEU8225124	MAEU8225124	MAEU8225124	IAEU8225124	MAEU8225124	1	0	1				68	66
HLCU45*6008*	HLCU4566008	HLCU4566008	HLCU4568006	HLCU4566008	1	0	1	1			68	66
OOLU8003301	OOLU8003301	OOLU8003301	OOLU8003301	OOLU8003301	1	1	1				73	71
CRXU4951325	CRXU4951325	CRXU4951325	CRXU4951325	CRXU4951325	1	1	1				78	76
HLXU4545696	HLXU4545696	HLXU4545696	HLXU4546696	HLXU4545493	1	0	0				78	76
TGHU8106341	TGHU8106341	TGHU8106341	TGHU8106341	TGHU8106341	1	1	1				84	81
U0**0	***U***0**0				0	0	0	1	1	1	84	81
HLXU4556453	HLXU4556453	HLXU4556453	HLXU4556450	HLXU4556454	1	0	0				89	87
HLXU6150329	HLXU6150329	HLXU6150329	HLXU6150329	HLXU6150329	1	1	1				89	87
TRIU5959921	TRIU5959921	TRIU5959921	TRIU5959921	TRIU5959921	1	1	1				95	92
HLCU4544360	HLCU4544360	HLCU4544360	HLCU4544364	HLCU4544360	1	0	1				95	92
PONU7159520	PONU7159520	PONU7159520	PONU7159520	PONU7159520	1	1	1				99	97
HLXU4307790	HLXU4307790	HLXU4307790	HLXU4307790	HLXU4307790	1	1	1				99	97
PO*U*00***6	POCU***0046	PO?U?0?46??	PO+U50046%%	POCU00646%%	0	0	0	1	1	1	103	101
TRLU6300390	TRLU6300390	TRLU6300390	TRLU6300390	TRLU6300390	1	1	1				103	101
CRXU9030180	CRXU9030180	CRXU9030180	CRXU9030180	CRXU9030180	1	1	1				107	105
PONU1292577	***U1292577	PONU1292577	PONU1292577	U+IU92577%%	1	1	0		1		111	109
CLHU2370480	CLHU2370480	CLHU2370480	CLHU2370480	CLHU2370480	1	1	1				114	113
IEAU2353356	IEAU2353356	IEAU2353356	IEAU2353356	IEAU2353358	1	1	0		1		115	115
ITLU696958*	ITLU6969*83				0	0	0	1	1		117	116
GATU1179991	GATU1179991	GATU1179991	GATU1179991	GATU1179991	1	1	1				118	117
***********	X*R*4939381				0	0	0	1	1	1	122	119
HLCU4238170	HLCU*2381*0	HLCU4238170	HLCU4238170	HLCU423810%	1	1	0		1		125	122
HLXU4395488	HLXU4395488	HLXU4395488	HLXU4395488	HLXU4395488	1	1	1				129	127
SEAU4808937	SEAU4808937	SEAU4808937	SEAU4808937	SEAU4808931	1	1	0				129	127
HLXU4423147	HLXU4423147	HLXU4423147	HLXU1442314	HLXU4423147	1	0	1				134	132
SEAU4803811	SEAU4803811	SEAU4803811	SEAU480381%	SEAU4803811	1	1	1				134	132
HLXU4338908	HLXU4338908	HLXU4338908	HLXU4338906	HLXU4338908	1	1	1				140	137
MAEU80851**	MAEU808519*	MAEU8085193	MAEU8085193	NIAU8085100	1	1	0	1	1		140	137
HLXU4565769	HLXU4565769	HLXU4565769	HLXU4565769	HLXU4565769	1	1	1				144	142
HLXU5008156	H*XU5008156	HLXU5008156	HLXU5008156	HIXU5008156	1	1	0		1		144	142
HLXU4281119	HLXU4281119	HLXU4281119	HLXU4281119	HLXU4281119	1	1	1				149	147
HLXU6028***	HLXU**28*6*	HLXU4??????	HLXU4561%%%	HLXU42870%%	0	0	0	1	1	1	149	147
HLCU40571*5	HL*U**571*5	HLOU6457140	RLCU4057166	HLOU6457145	0	0	0	1	1	1	155	153
HLXU4165274	HLXU4165274	HLXU4165274	HIXU4165274	IIEU52768%%	1	0	0				155	153
GSTU9363764	**TU***37**	GSTU9363764	GSTU936376%	@@TU963762%	1	1	0		1		160	157
HLXU6114208	HLXU6114208	HLXU6114208	HLXU6114208	HLXU6114208	1	1	1				160	157
HLXU6038999	HLXU6038999	HLXU6038999	HLXU6038999	HLXU6038999	1	1	1				164	162
*LCU4585836	HLCU4585836	HLCU4585836	ILCU4585836	HLCU4585836	1	0	1	1			164	162
TEXU7396504	TEXU7396504	TEXU7396504	TEXU739650%	TEXU739650%	1	1	1				169	166
POCU1203895	POCU1203895	POCU1203895	POCU1203895	POCU1203895	1	1	1				173	170
TPHU5175368	TPHU5175368	TPHU5175368	TPHU5175368	TPHU5175368	1	1	1				177	174
HLXU6113900	HLXU6113900	HLXU6113900	HLXU6113900	HLXU6113900	1	1	1				180	178

GATU0119560	GATU0119560	GATU0119560	GATU0119560	GATU0119560	1	1	1				184	184
HLXU6000308	HLXU6000308	HLXU6000308	HLXU6000308	HLXU6000308	1	1	1				188	186
SEAU8451642	SEAU8451642	SEAU8451642	SEAU8451647	SEAU8451642	1	0	1				188	186
HLXU4131952	HLXU4131952	HLXU4131952	HLXU4131952	HLXU4131959	1	1	0				192	190
HLXU4553752	HLXU4553752	HLXU4553752	HLXU4553752	HLXU4553752	1	1	1				192	190
HLXU6156501	HLXU6156501	HLXU6156501	HLXU6156501	HLXU1615650	1	1	0				196	194
HLXU4178841	HLXU4178841	HLXU4178841	HLXU4178841	HLXU4178840	1	1	0				196	194
HLCU4265642	HLCU4265642	HLCU4265642	HLCU4265642	HLCU4265642	1	1	1				200	198
HLXU4443077	HLXU4443077	HLXU4443077	HLXU4443077	HLXU4443077	1	1	1				200	198
MSKU2575890	MSKU2575890	MSKU2575890	MSKU2575890	MSKU2575890	1	1	1				203	202
MSCU1749010	MSCU1749010	MSCU1749010	MSCU1749010	MSCU1749010	1	1	1				204	204
HLXU6072859	HLXU6072859	HLXU6072859	HLXU6072859	HLXU6072859	1	1	1				204	202

Nb. of containers	75	Match Code ID	68		
Nb. Of Invalid	5	Match Code ID C1	52	Nb. Of Invalid C1	9
Nb. Of Valid	70	Match Code ID C2	50	Nb. Of Invalid C2	12
Perfect match code	39				

	C1	C2	PoM	TOTAL
Accuracy :	78.79%	79.37%	97,14%	90,67%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown as represented by the Gov. Of Canada — Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	[illegible]
2003-03-23	00:21:23	869		361	361	Timestamp

Visual Inspection C1	Visual Inspection C2	RoM Consist	Code ID - C1	Code ID - C2	RoM Match	Code ID C1 Match	Code ID C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
HLXU4145160	HLXU4145160	HLXU4145160	HLXU4145160	HLXU4145160	1	1	1				13	15
HLXU4**0940	HLXU4040940	HLXU1424094	HLXU1414094	HLXU0404094	0	0	0	1			13	15
HLXU4172524	HLXU4172524	HLXU4172524	HLXU4172524	HLXU4172524	1	1	1				18	20
HLXU4103396	HLXU4103396	HLXU4103396	HLXU4103396	HLXU4103396	1	1	1				18	20
HLXU4276107	HLXU4276107	HLXU4276107	HLXU4276107	HLXU4276107	1	1	1				22	24
TTNU9226532	TTNU9226532	TTNU9226532	TTNU922653%	TTNU9226532	1	1	1				22	24
TPHU5327516	TPHU5327516	TPHU5327516	TPHU5327516	TPHU5327516	1	1	1				27	29
U7**2	*STU**77152	OSTU7771528		OSTU777152%	0	0	0	1	1	1	27	29
TPHU5054910	TPHU5054910	TPXU5054910	IPXU5054910	TPXU5054910	0	0	0				32	33
CLHU4225985	CLHU4225985	CLHU4225985	CLHU4225985	CLHU4225985	1	1	1				32	33
MAEU8297802	MAEU8297802	MAEU8297802	MAEU8297802	MAEU8297802	1	1	1				36	38
PONU7276043	PONU7276043	PONU7276043	PONU7276043	PONU7276043	1	1	1				36	38
PONU7179402	PONU7179402	PONU7179402	PONU7179402	POHU7179402	1	1	0				41	42
TTNU9182476	TTNU9182476	TTXU9192411		TTXU9192416	0	0	0				41	42
TTNU9053669	TTNU9053669	TTNU9053669	TTNU9053669	TTNU9053669	1	1	1				44	46
PONU7654992	PONU7654992	PONU7654992	PONU7654992	PONU7654992	1	1	1				44	46
KNLU4313724	KNLU4313724	KNLU4313724	KNLU4313724	KNLU4313724	1	1	1				48	49
PONU7444152	PONU7444152	PONU7444152	PONU7444152	PONU7444152	1	1	1				48	49
*LDU0560536	GLDU0560536	GLDU0560536	GLOU0560536	GLOU0560536	1	0	0	1			52	54
CLHU8152022	CLHU8152022	CLHU8152022	CLHU8152022	CLHU8152022	1	1	1				55	57
KNLU4261750	KNLU4261750	KNLU4261750	KOLU4261759	KNLU4261750	1	0	1				58	59
MSCU8576895	MSCU8576895	MSCU8576895	USCU8576895	MSCU8576895	1	0	1				61	62
TTNU9786624	TTNU9786624	TTNU9786624	TTNU9786624	OINU9786624	1	1	0				64	66
OCLU7010684	OCLU7010684	OCLU7010684	OCLU7010684	OCLU7010684	1	1	1				67	69
FRLU8609229	FRLU8609229	FRLU8609229	FRLU8609229	FRLU8609229	1	1	1				67	69
TOLU1586135	TOLU1586135	TOLU1586135	TOLU1586135	TOLU1586135	1	1	1				71	73
TGHU8038308	TGHU8038308	TGHU8038308		TGHU8038308	1	0	1				71	73
MSCU8934495	MSCU8934495	MSCU8934495	MSCU8934495	MSCU8934495	1	1	1				75	76
KNLU5133769	KNLU*133769	KNLU5133769	KNLU5133769	KNLU1133769	1	1	0		1		78	80
KNLU507140*	KNLU5071409	KNLU5071409	KNLU507140%	KNLU5071409	1	1	1	1			78	80
GLDU0748117	GLDU0748117	GLDU0748117	GLOU0748%%%%	GLDU0748117	1	0	0				81	83
TRLU6189938	TRLU6189938	TRLU6189938	TRLU6189938	TRLU6189938	1	1	1				85	87
CLHU8136572	CLHU8136572	CLHU8136572		CLHU813657%	1	0	1				88	90
		CLHU8136572	CLHU8136572		0	0	0	1	1	1		
*L*U4535*1*	MLCU4535616	MLCU4535616	MLIU4535010	MLCU4535618	1	0	1	1			92	93
PONU123637*	PONU1236378	PONU1236378	PONU1236371	PONU1236378	1	0	1	1			95	97
INKU2820870	INKU2820870	INKU2820870	INKU2820870	INKU2820870	1	1	1				98	100
PONU7300957	PONU7300957	PONU7300957	PONU7300957	PONU7300957	1	1	1				102	104
TGHU7954224	TGHU7954224	TGHU7954224	**TU7954224	@GHU7954224	1	0	1				102	104
POCU7*077*8	POCU7007708	POCU7007708	POCU70778%%	POCU7007708	1	0	1	1			105	107
GLDU0569127	*LDU0569127	CLOU0569127	GLOU0689127	BLOU0569127	0	0	0		1		105	107
SEAU8602142	SEAU86*2*42	SEAU8652143	SEAU8652142	SEAU8642144	0	0	0		1		108	110
MSCU8878452	MSCU8878452	MSCU8878452	USCU8878452	MSCU881%%%%	1	0	0				108	110
PONU7650370	PONU7650370	PONU7650370	PONU7650370	POMU7650370	1	1	0				111	113
POCU70549*4	PO*U7*549*4	POCU7054994	POCU7054994		1	1	0	1	1		111	113
TTNU9823688	***********	TTNU9823688	TTNU9823688	OCIU7615493	1	1	0		1		114	116
TRLU5707647	TRLU570764*	TRLU5707647	TRLU5707647		1	1	0		1		114	116
MSCU4******	MSCU4047487	HSCU40474??		HSCU40474%%	0	0	0	1			119	120
MAEU8075575	MAEU8075575	MAEU8075575	MAEU8075575	MAMU807515%	1	1	0				119	120
FSCU6009236	FSCU6009236	FSCU6009236	FSCU6009236	FSCU6009230	1	1	0				122	123
TRIU9683277	TRIU9683277	TRIU9683277	TRIU9683277	IRIU9683277	1	1	0				122	123
PONU7676625	PONU7676625	PONU7676625	PONU7676625	PONU7676625	1	1	1				125	126
MSCU8702289	MSCU8702289	MSCU8702289	MSCU8702289	MSCU8702%%%	1	1	0				125	126
TTNU9879120	TTNU9879120	TRMU9879123		TRMU9879120	0	0	0				128	129
GLDU0752565	GLDU0752565	GLOU0752569	GLOU0752565	GLOU0752565	0	0	0				128	129
PONU7588545	PONU7588545	PONU7588545	PONU7588545	PONU7588545	1	1	1				130	132
MSCU8025402	MSCU8025402	MSCU8025402	MSCU8025402	MSCU8025402	1	1	1				130	132
SEAU8676680	SEAU8676680	SEAU8676680	SEAU8676680	SEAU8676680	1	1	1				134	136
MSCU8505720	MSCU8505720	MSCU8505720	NSCU8505720	MSCU8505720	1	0	1				134	136
TRLU6318758	TRLU6318758	TRLU6318758	TRLU6318758	TRLU6318758	1	1	1				139	140
MSCU8938660	MSCU8938660	MSCU8938660	USCU8938660	MSCU8938660	1	0	1				139	140
MSCU8947316	MSCU8947316	MSCU8947316	MSCU8947316	MSCU89473%%	1	1	0				143	144
*RXU9103369	CRXU9103369	CRXU9103369	@RXU8103369	CBXU9103369	1	0	0	1			143	144
TEXU726459*	TEXU7264597	TEXU7264597	TEXU7264597	TEXU7264592	1	1	0	1			147	149
POCU7005048	POCU7**50*8	POCU7005048	PODU7005044	POCU71151%%	1	0	0		1		147	149

TRIU9692577	TRIU969257*	TRIU9692577	TRIU9692577	TRIU9692570	1	1	0		1		151	153
MSKU8299932	MSKU8299932	MSKU8299932	MSGU8299932	MSKU8299932	1	0	1				151	153
MSCU8502228	MSCU8502228	MSCU8502228	AGAU08329%%	MSCU8502228	1	0	1				155	157
MSCU8558171	MSCU8558171	MSCU8558171	MSCU8558171	MSCU8558171	1	1	1				159	160
PONU7217740	PONU7217740	PONU7217760	PONU7217710	PONU7217760	0	0	0				162	164
U1**3	GSTU7*71473	????????????	@OGU2510%%%	GSTU61146%%	0	0	0	1	1	1	165	167
U0**0	TTNU9104302	TTNU9104302		TTNU9104302	1	0	1	1			169	170
FSCU6374748	FSCU6374748	FSCU6374748	FSCU6374748	FSCU6374748	1	1	1				173	174
*STU*723779	*STU8723779	GSTU8723779	GSTU9723779	GSTU8723779	1	0	1	1	1		173	174
GESU4215418	GESU4215418	GESU4215418	GESU4215418	GESU4215416	1	1	0				177	179
TRIU5333460	*RIU5333460	TRIU5333460	MIIU533346%	IRIU5333460	1	0	0		1		177	179
TCKU9180007	TCKU9180007	TCKU9180007		TCKU9180000	1	0	0				181	183
KNLU5102921	KNLU510292*	KNLU5102921	KNLU5102921	KNLU510292%	1	1	0		1		181	183
POCU0380073	POCU*380073	POCU0380073	POCU0380073	POCU1380673	1	1	0		1		185	186
POCU0323957	POCU0323957	POCU0323957	POCU0323957	POCU0323957	1	1	1				186	187
APMU2718865	APMU2718865	APMU2718865	APMU2718865	APMU271655%	1	1	0				187	188
TTNU3050298	TTNU3050298	TTNU3050298	TTNU3050298	TINU3050299	1	1	0				189	189
CAXU4057728	CAXU4057728	CAXU4057728	CAXU4057728	CAXU4057728	1	1	1				191	193
C*V*423*590	CIVU423259*	CLIU0188001	@LIU0188001	CIVU423959%	0	0	0	1	1		191	193
PONU1228578	PONU1228578	PONU1228578	PONU1228578	PONU1228578	1	1	1				196	198
TTNU4756910	TTNU4756910	TTNU4756910	TTNU475691%	TTNU4756910	1	0	1				196	198
MSKU8122443	MSKU8122443	MSKU8122443	MSKU8122443	MSKU8122443	1	1	1				200	202
OC*U15099*1	OCLU1509911	OCLU1509911	OCLU1509921	OCLU1509911	1	0	1	1			200	202
MSKU8020776	MSKU8020776	MSKU8020776	MSKU8020776	MSKU8020776	1	1	1				205	207
PONU7677719	PONU7677719	PONU7677719	PONU7677719	PONU7677719	1	1	1				205	207
HLCU4264121	***********	HLCU4264121	HLCU4264121		1	1	0		1		210	214
HLXU6164301	***********	HLXU6164301	HLXU6164301		1	1	0		1		210	214
HLXU4185774	HLXU4185774	HLXU4185774	HLXU4185774	HLXU01130%%	1	1	0				216	217
HLXU4499332	HLXU4499332	HLXU4499332	HLXU4499332	HLXU1419332	1	1	0				216	217
HLXU6094570	HLXU6094570	HLXU6094570	HLXU6094570	HLXU6094570	1	1	1				220	221
HLXU5003025	HLXU5003025	HLXU5003025	HLXU5003025	HIXU5003025	1	1	0				220	221
HLCU45878*3	HLCU4587823	HLCU4587823	HLCU4587823	HLCU4587823	1	1	1	1			224	225
HLXU4522453	HLXU4522453	HLXU4522453	HLXU4520450	HLXU4522453	1	0	1				224	225
HLXU428912*	HLXU4289125	HLXU4289125	HLXU4289125	HLXU4289125	1	0	1	1			228	230
MAEU8290074	MAEU8290074	MAEU8290074	MAEU8290074	MAEU8290074	1	1	1				228	230
HLXU4612937	HLXU4612937	HLXU4612937	MLXU4612037	HLXU4612937	1	0	1				231	233
MSKU8190031	MSKU8190031	MSKU8190031	MSKU8190031	MSKU8190031	1	1	1				231	233
HLCU4117542	HLCU4117542	GLZU7411721	GLZU7411724	HLCU4117512	0	0	0				235	236
MSKU8236744	MSKU8236744	MSKU8236744	MSKU8236744	MSKU8236744	1	1	1				235	236
HLXU6076371	HLXU6076371	HLXU6076371	HLXU6076371	HLXU6076371	1	1	1				238	240
***********	HLXU4562883	HLXU4562883	JISU600440%	HLXU4562883	1	0	1	1			238	240
HLXU4018838	HLXU4018838	HLXU4018838	HLXU4018838	HLXU4018838	1	1	1				241	243
MSCU8354096	MSCU8354096	MSCU8354096	MSCU8354096	MSCU8354096	1	1	1				241	243
TOLU492883*	TOLU492883*	TOLU4028836	TOLU402883%	TOLU492883%	0	0	0	1	1	1	246	247
LXU458453	HLXU4584537	HLXU4584537	HLXU458453%	HLXU4584537	1	0	1	1			246	247
HLXU4570512	HLXU4570512	HLXU4570512	HLXU4570512	HLXU4570512	1	1	1				249	251
HLXU4267445	HLXU4267445	HLXU4267445	HLXU4267445	HLXU4267445	1	1	1				249	251
HLXU6012438	HLXU6012438	HLXU6012438	HLXU6012438	HLXU6012438	1	1	1				253	255
HLXU4655230	HLXU4655230	HLXU4655230	HLXU4655230	HLXU4655230	1	1	1				253	255
GATU8003854	GATU8003854	GATU8003854	GATU8003654	GATU8003854	1	0	1				257	258
HLXU4037735	HLXU4037735	HLXU4037735	HLXU4037735	HLXU4037735	1	1	1				257	258
HLXU6048596	HLXU6048596	HLXU6048596	HLXU6048596	HLXU6048596	1	1	1				260	262
***********	HLXU6106100	HLXU6106100	HLXU6106100	HLXU6101001	1	1	0	1			260	262
*AXU495*420	C*XU**52**2*	CAXU4952420	CAXU4952420	CAXU4052%%%	1	1	0	1	1		264	266
MAEU4514005	MAEU4514005	MAEU4514005	MAEU4514005	HAEU4514005	1	1	0				264	266
HLXU428*009	HLXU4287009	HLXU4287009	HLXU4287001	HLXU4287009	1	0	1	1			269	271
HLXU4591773	HLXU4591773	HLXU4591773	HLXU4591773	HLXU4591773	1	1	1				273	275
HLXU4286424	HLXU4286424	HLXU4286424	HLXU4286424	HLXU4286424	1	1	1				273	275
CARU4815946	CARU4815946	CARU4815946	CARU4815946	CARU4815946	1	1	1				278	280
MSCU4511704	MSCU4511704	MSCU451????	MSCU4511%%%	MSCU451%%%%	0	0	0				283	285
HLXU4419960	HLXU4419960	HLXU4419960	HLXU4419960	HLXU4419960	1	1	1				283	285
TRLU9223722	TRLU9223722	TRLU9223722	TRLU9223722	IRLU9223722	1	1	0				287	289
HLXU4410031	HLXU4410031	HLXU4410031	HLXU4410031	HLXU4410031	1	1	1				292	294
SEAU8560520	SEAU856*520	SIAU8560527	SIAU8560520	SEAU8560520	0	0	1		1		292	294
H*********3	***********	CFTU4560993	COTU4560993	PECU0923%%%	0	0	0	1	1	1	296	298
HLXU6137630	HLXU6137630	HLXU6137630	HLXU6137630	HLXU6137630	1	1	1				301	303
***********	HLCU40573*9	HLCU4057398		HLCU4057399	0	0	0	1	1	1	306	308
HLXU4131253	HLXU4131253	HLXU4131253	HLXU4131253	HLXU4131250	1	1	0				311	313
HLXU4495960	HLXU4495960	HLXU4495960	HLXU4495960	HLXU4495960	1	1	1				315	317
HLXU6083597	HLXU6083597	HLXU6083597	HLXU6083597	HLXU6083597	1	1	1				320	322

HLCU0*2*3**	HLCU05243**	HLCU0?2?3??	HLCU0+203%%	HLCU05243%%	0	0	0	1	1	1	325	327
HLXU4532132	HLXU4532132	HLXU4532132	HLXU4582137	HLXU4532132	1	0	1				325	327
TRLU9241990	TRLU9241990	TRLU9241990	TRLU9241990	TRLU9241090	1	1	0				330	332
HLXU6088789	HLXU6088789	HLXU6088789	HLXU6088789	HLXU6088789	1	1	1				330	332
***********	C**U4*99*2*	COXU8993262		COXU899326%	0	0	0	1	1	1	335	337
HLXU4273392	HLXU4273392	HLXU4273392	HLXU4273392	HLXU4273392	1	1	1				335	337
HLXU6041605	HLXU6041605	HLXU6041605	HLXU6041605	HLXU6041605	1	1	1				339	341
HLCU4*70764	HL*U4*70764	HLCU4070764	HLCU407076%	HLCU4070764	1	0	1	1	1		342	344
GSTU6249510	GSTU6249510	GSTU6249510	GSTU6249510	GSTU6269510	1	1	0				346	348
TRLU4780767	*RLU4780767	TRLU4780767	TRLU4780767	@RLU4780767	1	1	0		1		349	351
TRLU4589302	TRLU4589302	TRLU4589302	TRLU4589302	TRLU4589362	1	1	0				352	354
HLXU4521668	HLXU4521668	HLXU4521668	HLXU4521668	HLXU4521668	1	1	1				356	358
HLCU4631063	HLCU4631063				0	0	0				356	358

Nb of containers	147	Match Code ID	126		
Nb Of Invalid	7	Match Code ID C1	94	Nb Of Invalid C1	29
Nb Of Valid	140	Match Code ID C2	87	Nb Of Invalid C2	26
Perfect match code	60				

	C1	C2	PoM	TOTAL
Accuracy	79,66%	71,90%	90,00%	85,71%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown, as represented by the Gov. Of Canada — Date

DTI Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C	OCRAIL
2003-03-24	15:27:54	873		434	434	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
TRIU4973782	TRIU49737*2	TRIU4973782	TRIU4973782	@@IU%%97378	1	1	0		1		16	13
TEXU4421352	TEXU4421352	TEXU4421352	TEXU4421352		1	1	0				20	18
GSTU8589084	***U***9**4	GSTU8589084	GSTU8589084		1	1	0		1		25	23
TEXU4646533	TEXU4646533	TEXU4646533	TEXU4046533	TEXU4646533	1	0	1				25	23
OCLU1534215	OCLU1534215	OCLU1534215	OCLU1534215	OCLU1534215	1	1	1				31	28
PONU7663063	PONU7663063	PONU7663063	PONU7663063	PONU7663063	1	1	1				31	28
MAEU6208529	MAEU6208529	MAEU6208529	IAEU6208529	AAEU6208529	1	0	0				36	34
NYKU6132404	NYKU6132404	NYGU6132400	NYGU32404%%	NYGU6132404	0	0	0				36	34
TRIU9794136	TRIU9794136	TR?U9794136	TR+U9794136		0	0	0				41	39
TRLU4130102	TRLU4130102	TRLU4130102	TRLU4130102	TRLU4130102	1	1	1				41	39
TTNU5565266	TT*U55*52**	TTNU5565266	TTNU5565266		1	1	0		1		47	44
TRLU4385865	TRLU4385865	TRLU4385865	TRLU4385865	CRLU385865%	1	1	0				47	44
TGHU7220344	TGHU7220344	TGHU7220344	TGHU7220344	TGHU7220344	1	1	1				52	50
TRLU6320544	TRLU6320544	TRLU6320544	TRLU6320544	TRLU6320544	1	1	1				52	50
SEAU8667610	SEAU8667610	SEAU8667610	SEAU8667611	SEAU8667611	1	0	0				58	55
TPHU5133193	TPHU5133193	TPHU5133193	TPHU5133193	TPHU5133193	1	1	1				58	55
TRLU4583578	TRLU45*3*78	TRLU4583578	TRLU4583578	TALU83678%%	1	1	0		1		63	61
MAEU6155239	MAEU6155239	MAEU6155239	MAEU615523%	OAEU6155239	1	1	0				69	67
TRLU4635753	TRLU4635753	TRLU4635753	TRLU4635753	TRLU4635753	1	1	1				69	67
PONU7106371	PONU7106371	PONU7106371	POMU7106371	PONU7106371	1	0	1				75	73
TRIU4782240	TRI*4782240	????????????	TRIU4782%%%	O@@U05+4310	0	0	0		1		75	73
PONU7559697	PONU7559697	PONU7559697	PONU7559697	PONU7559697	1	1	1				81	78
TGHU4510118	TGHU4510118				0	0	0				81	78
PONU7143380	PONU7143380	PONU7143380	PONU7943349	PONU7143380	1	0	1				85	83
HOLU4004**0	HOLU4004980	HOLU4004982	HOLU4004980	HOLU4004980	0	0	0	1			85	83
TTNU375130*	TTNU375130*	TTNU3751301	TTNU375130%		1	1	0	1	1		89	88
*E*U2270210	SEAU2270210	SEAU2270210	@USU21200%%	SEAU2270219	1	0	0	1			88	87
SCMU4004622	SCMU4004622	SCMU4004622	SCMU4004622	SCMU4004622	1	1	1				89	87
NYKU2355987*	NYKU2355987	NYKU2355987	NYKU2355987*		1	1	0				93	93
CAXU7206*20	CAXU7206620	URU7209???	URU7209%%%		0	0	0	1			93	91
CRXU161251*	CRXU161251*	CRXU1612518	CRXU161251%	CRXU161251%	1	1	1	1	1		92	91
GSTU*868*17	*STU***8517	GSTU8685175	GSTU868517%		0	0	0	1	1	1	96	95
TTNU29352**	TTNU293528*	TTNU29352??	TTNU29352%%		0	0	0	1	1	1	98	97
TCKU9594368	TCKU95943**				0	0	0		1		98	95
APMU2832163	APMU2832163	APMU2832163	APMU283+216	PNIU2832163	1	0	0				102	101
MSKU2151300	*SKU2151300	MSKU7151302		MSKU7151300	0	0	0		1		104	103
MAEU6348686	MAEU6348686	MAEU6348686	MAEU6348686	OAEU6348686	1	1	0				104	101
POCU0394570	POCU0394570	POCU0394570	POCU0394570	POCU0394570	1	1	1				107	106
TGHU238834*	TGHU238834*	TGHU2388340	TGHU238834%	TGHU238834%	1	1	1	1	1		108	108
MAEU6346981	MAEU6346981	MAEU6346981	AAEU6346981	MAEU6346981	1	0	1				108	106
TTNU3760***	TTNU37604**	TTNU3760???	TTNU3760%%%		0	0	0	1	1	1	113	112
TTNU386*****	TTNU3863***	TTNU3863???		TTNU3863%%%	0	0	0	1	1	1	112	111
MAEU2380669	MAEU2380669	MAEU2380669	MAEU2380661	MAEU2380669	1	0	1				113	111
***********	HLCU40*3603	HLCU4943605		HLCU4943603	0	0	0	1	1	1	119	116
HLXU4137349	HLXU4137349	HLXU4137349	HLXU4137349	HLXU4137349	1	1	1				119	116
HLCU4006702	*LCU*006702	HLCU4006702	HLCU4006792	PLCU8006702	1	0	0		1		123	121
HLXU4345240	HLXU4345240	HLXU4345240	HLXU4345240	HLXU4345240	1	1	1				123	121
HLXU5012855	HLXU5012855	HLXU5012855	HLXU5012855	HLXU5012855	1	1	1				127	125
HLXU4300712	HLXU4300712	HLXU4300712	HLXU4300712	HLXU4300712	1	1	1				127	125
GATU8283204	GATU8283204	GATU8283204	GATU8283204	GATU8283204	1	1	1				131	129
GATU4344317	GATU4344317	GATU4344317	GATU4344317	GATU4344317	1	1	1				135	133
GESU4293067	GESU4293067	GESU4293010	GESU4293060	GESU429301%	0	0	0				141	138
FSCU4193463	FSCU4193463	FSCU4193463	FSCU4193463	FSCU4193463	1	1	1				141	138
CLHU8117438	CLHU8117438	CLHU8117438	CLHU8117438	CLHU8117438	1	1	1				145	143
U9**7	***********				0	0	0	1	1	1	145	143
PONU1578302	PONU1578302	PONU1578302	PONU1578302	PONU1578302	1	1	1				150	148
GATU0785839	GATU0785839	GATU0785839	GATU0785839	GATU0785839	1	1	1				155	155
MSCU1136410	MSCU1136410	MSCU1136410		MSCU1136410	1	0	1				154	153
MSKU8288162	MSKU8288162	MSKU8288162	MSKU8288162	MSKU8288162	1	1	1				155	153
TTNU2309297	TTNU2309297	TTNU2309297	TTNU2309297	TTMU2309297	1	1	0				159	158
GLDU2016352	GLDU2016352	GLDU2016352	GLDU2016352	GLOU2016352	1	1	0				160	160
MAEU7193887	MAEU7193887	MAEU7193887	MAEU7193887	MAEU7193887	1	1	1				160	158
TPHU8071156	TPHU8071156	TPHU8071156	TPHU8071156	TPHU8071156	1	1	1				164	163
APMU27613*8	APMU27613*8	APMU2761368	APMU2761358	APMU2761368	1	0	1	1	1		165	165
TRIU9196582	T*IU91965*2				0	0	0		1		165	163

CRXU1862482	CRXU1862482	CRXU1862482	CRXU1862488		1	0	0				169	168
TEXU2400915	TEXU2400915	TEXU2400915	TEXU2400915	TEXU2400915	1	1	1				170	170
PONU1371974	PONU1371974	PONU1371974	PONU1371974	PONU1371974	1	1	1				170	168
MSKU2009810	MSKU2009810	MSKU2009810	MSKU2009810	MSKU2009810	1	1	1				174	173
GLDU2138432	GLDU2138432	GLOU2138436	GLOU2138432	GLOU2138432	0	0	0				175	175
TEXU5610561	TEXU5610561	TEXU5610561	TEXU5610561	@@EU561066%	1	1	0				175	173
CRLU5136412	CRLU5136412	CRLU5136412	CRLU5136412	CRIU5136412	1	1	0				181	179
MWCU6169755	MWCU6169755	MWCU6169755	MVCU6169755	UVCU6119715	1	0	0				181	179
TOLU5911022	TOLU5911022	TOLU5911022	TOLU5911022		1	1	0				186	184
CRLU5136449	CRLU5136449	CRLU5136449	ITIU114411%	CRLU5136444	1	0	0				186	184
MWCU6137510	MWCU6137510	MWCU6137510	MJCU6137510	MZCU6137510	1	0	0				191	189
MWCU6521681	MWCU652*681	MWCU6521681	MVCU6521681	UUCU652+681	1	0	0		1		191	189
**********	CNGU000861	GI?U000861?		GI+U000861%	0	0	0	1	1	1	197	194
MAEU57983*5	MAEU5798375	MAEU5798375	AAEU57983%%	MAEU5798375	1	0	1	1			197	194
*STU3463724	***U***3**4	GSTU3463724	FSTU3463724		1	0	0	1	1		202	201
PONU2868097	PONU2868097	PONU2868097	PONU2868097	PONU2868097	1	1	1				200	200
MWCU6554371	MWCU6554**1	MWCU6554371	JWCU6554371	TTOU2307%%%	1	0	0		1		202	200
CRLU9118504	CRLU9118504	CRLU9118504	CRLU9118504	CRLU9118504	1	1	1				206	204
MWCU6200090	MWCU6200090	MWCU6200090	MUCU6200090	MVCU6200090	1	0	0				206	204
MAEU5747568	MAEU5747568	MAEU5747568	MAEU5747568	MAEU5747568	1	1	1				210	208
CRLU9109483	C**U9109**3	CRLU9109483	CRLU9109483	LNLU05+4532	1	1	0		1		210	208
MAEU5181697	MAEU5181697	MAEU5181697	MAEU5181697	MAEU5181697	1	1	1				214	212
MWCU6087560	MWCU608*56*	IWCU6087565	NIUU608760%	IWCU6087560	0	0	0		1		214	212
MWCU6094065	MWCU6094065	MWCU6094065	UUCU6094065	MMIU6094065	1	0	0				219	216
MSKU4529810	MSKU4529810	MSKU4529810	MSKU4529810	MSKU4529810	1	1	1				219	216
TCKU9605098	TCKU960509*	?RGU5098???	*RGU5098%%%		0	0	0		1		224	222
CLHU21847**	CLHU21847**	CLHU21847??	CLHU21847%%	CLHU21847%%	0	0	0	1	1	1	223	222
GLDU2141415	GLDU2141415	GLDU2141415	GLDU2141415	GLDU214141%	1	1	1				224	223
TCKU9526234	TC*U952623*	??CU952623?	@@CU952623%		0	0	0		1		230	227
TTNU2211675	TTNU2211675	TTNU2211675	TTNU2211675	TTMU2211675	1	1	0				228	227
MSKU2326012	MSKU2326012	MSKU2326012	MSKU2326012	MSKU2326012	1	1	1				230	229
MSKU2502148	MSKU2502148	MSKU2502148	MSKU2502148		1	1	0				235	234
TRLU6403037	T*LU***3**7	TRLU6403037	TRLU6403037		1	1	0		1		235	233
SCMU2047008	SCMU2047008	SCMU2047008	SCMU2947008	SCMU2047008	1	0	1				234	233
PONU0352521	PONU0352521	PONU0352521	PONU0352521		1	1	0				241	240
TEXU3691224	TEXU3**1224	TEXU3691224	TEXU3691224	TEXU3691224	1	1	1		1		240	239
KNLU5119035	KNLU5119035	KNLU5119035	KNLU5119035	KNLU5119035	1	1	1				241	239
GCEU4305576	***********	GCEU6305575	GCEU6305576		0	0	0		1		246	245
POCU0463033	POCU0463033	POCU0463033	POCU0463033	POCU0463033	1	1	1				245	244
MAEU6002203	MAEU6002203	MAEU6002203	MAEU6002203	AAEU6002203	1	1	0				246	244
OCLU4196770	OCLU4196770	OCLU4196770	OCLU196770%	OCLU4196770	1	0	1				250	249
MSCU1137463	MSCU1137463	MSCU1137463		MSCU1137463	1	0	1				251	251
MAEU8367453	MAEU8367453	MAEU8367453	MAEU8367453	IAEU8367453	1	1	0				251	249
TRIU5984631	TRIU5984631	TRIU5984631	TRIU5984631		1	1	0				256	254
CRXU1167644	CRXU1167644	CRXU1167644	CRXU1167444	CRXU1167644	1	0	1				255	254
UXXU2433667	UXXU2433667	UXXU2433667	UXXU2433967	UXXU2433667	1	0	1				256	256
MAEU7803676	MAEU7803676	MAEU7803676	MAEU7803%%%	MAEU7803676	1	0	1				260	259
GATU0820420	GATU0820420	GATU0820420	GATU0820420	GATU0820420	1	1	1				262	261
MAEU6239622	MAEU6239622	MAEU6239622	MAEU6239622	IAEU6239622	1	1	0				262	259
PONU7271993	PONU7271993	PONU7271993	PONU7271993	PONU7271993	1	1	1				267	265
GLDU0599796	GLDU0599796	GLOU0599790	GLOU0599796	GLOU0599796	0	0	0				272	269
MAEU82696*9	MAEU8269689	MAEU8269689		MAEU8269689	1	0	1	1			276	274
MSCU1641350	MSCU164135*	MSCU1641350	MSCU1641350		1	1	0		1		281	280
TTNU2382***	TTNU2382***	TTNU2382???	TTNU2382%%%	TTNU2382%%%	0	0	0	1	1	1	280	279
TCKU9634882	TCKU9634**2				0	0	0		1		281	279
ICSU4791237	ICSU4791237	ICSU4791237	ICSU4791237	ICSU4791232	1	1	0				285	284
MSKU2075869	MSKU2075869	MSKU2075869	MSKU2075869	MSKU2075869	1	1	1				287	286
APMU4542158	APMU4542158	APMU4542158	APMU4542158	APMU454215%	1	1	1				287	284
APMU2751098	APM*2751098	APMU2751098	APMU2751098	JNPU2751098	1	1	0		1		291	290
APMU275**48	APMU2753948	APMU2753948	APMU2752948	APMU2753948	1	0	1	1			292	291
M**U4558894	MAEU455*89*	MAEU4558894	@MXU4558894	MAEU455989%	1	0	0	1	1		292	290
MSKU2470689	MSKU2470689	MSKU2470689	MSKU247068%	MSKU2470689	1	1	1				296	296
MSCU2891009	MSCU2891009	MSCU2891009	MSCU2891009	MSCU2891009	1	1	1				298	297
TRIU5430141	TRIU5430141	TRIU5430141	TRIU5430141	TRIU5430141	1	1	1				298	296
JSSU0*52149	JSSU0*52149	JSSU0?52149	JSSU0+52149		0	0	0	1	1	1	304	303
AMFU30103**	AMFU30103**	AMFU30103??	AMFU30103%%	AMFU30103%%	0	0	0	1	1	1	302	301
GLDU0701716	GLDU0701716	GLDU0701716	GLDU0701716	GLDU0701716	1	1	1				304	301
SCMU2058002	SCMU2058002	SCMU2058002	SCMU2058002	SCMU2058002	1	1	1				308	307
SEAU2336127	SEAU2336127	SEAU2336127	SEAU2336120	SEAU2336127	1	0	1				309	308
APMU4536371	A**U4536371	APMU4536371	APMU4536371	AFMU4546371	1	1	0		1		309	307

MSKU2091880	MSKU2091880	MSKU2091880	MSKU2091880		1	1	0				315	314
MSKU2213401	MSKU2213401	MSKU2213401	MSKU2213401	MSKU2213401	1	1	1				314	313
APMU4523883	APMU4523883	APMU4523883	APMU4523883	APMU4523883	1	1	1				315	313
TTNU24483**	TTNU24483**	TTNU24483??	TTNU24483%%		0	0	0	1	1	1	319	318
MSKU2038042	MSKU2038042	MSKU7038045	MSKU7038042		0	0	0				321	320
APMU4529156	APMU4529156	APMU4529156	APMU4529156	APMU4529156	1	1	1				321	318
GLDU2099531	GLDU2099531	GLDU2099531	GLOU2099531	GLDU2099531	1	0	1				325	324
POCU02268*8	POCU0226828	POCU0226828	POCU0226878	POCU0226828	1	0	1	1			327	326
POCU3005749	POCU3005749	POCU3005749	POCU3005749	POCU3005749	1	1	1				327	324
PONU7662262	PONU7662262	PONU7662262	PONU7662262	PONU7662262	1	1	1				332	330
MAEU6198800	MAEU6198800	MAEU6198800	MAEU6198800	MAEU6198800	1	1	1				332	330
TRIU9304809	TRIU9304809	TRIU9304809	TRIU9304809	TRIU9304809	1	1	1				336	334
KNLU5121963	KNLU5121963	KNLU5121963	KNLU5128963	KNLU5121963	1	0	1				336	334
TCKU9157500	TCKU9157500	TCKU9157500	TCKU9157500		1	1	0				340	338
MSKU8240636	MSKU8240636	MSKU8240636	MSKU8240636	MS+U8240636	1	1	1				340	338
MAEU6033441	MAEU6033441	MAEU6033441	MAEU6033441	MAEU603344%	1	1	1				345	342
PONU3035006	PONU3035006	PONU3035006	PONU3035006	PONU3035006	1	1	1				345	342
POCU1197977	POCU1197977	POCU1197977	POCU1197977	POCU1197977	1	1	1				349	347
APMU453514*	APMU4535143	AMMU4535148	AMMU453514%	A+MU035143%	0	0	0	1			349	347
GESU4455506	GESU4455506	GESU4455506	GESU4455506	GESU4455506	1	1	1				354	352
TPHU5143550	TPHU5143550	TPHU5143550	TPHU5143550	IPIU51430%%	1	1	0				354	352
PONU7179948	PONU7179948	PONU7179948	PONU7179948	PONU7179948	1	1	1				359	357
PONU3039803	PONU3039803	PONU3039803	PONU3039803	PONU3039803	1	1	1				359	357
TEXU4839717	T*XU4*397*7	TEXU4839717	T+XU4839717	T+XU4639717	1	0	0		1		363	361
PONU7455666	PONU7455666	PONU7455666	PONU7455666	PONU7455666	1	1	1				363	361
SEAU8378726	S*A*83*8726	SFAU8388726	SELU8378362	SFAU8388724	0	0	0		1		369	367
MAEU6313210	MAEU6313210	MAEU6313210	AAEU6313210	MAEU6313210	1	0	1				369	367
MSCU8805796	MSCU8805796	MSCU8805796	MSCU8805796	MSCU8805796	1	1	1				374	371
TTNU9509281	TT*U9509281				0	0	0		1		374	371
PONU1358817	PONU1358817	PONU1358817	PONU1358817	PONU1358817	1	1	1				378	376
U2***	***U***2***				0	0	0	1	1	1	378	376
PONU0210743	PONU0210743	PONU0210743		PONU0210743	1	0	1				382	381
FSCU3688690	FSCU3688690	FSCU3688690	FSCU3688690	FSCU3688690	1	1	1				383	382
*LDU4097230	GLDU4097230	GLDU4097230	CLDU4097230	GLDU4097230	1	0	1	1			387	385
GESU4294989	GESU4294989	GESU4294989	GESU4294988	GESU4294180	1	0	0				390	388
POCU1088174	POCU1088174	POCU1088174	POCU1088174	POCU1088174	1	1	1				394	392
TCKU9913568	TCKU991356*	TCKU9913568	TCKU9913568	@@CU99133%%	1	1	0		1		398	396
TOLU3253560	TOLU3253560	TOLU3253560	TOLU3253566	TOLU3253560	1	0	1				401	400
GATU0457850	GATU0457850	GATU0457850	GATU0457850	GATU0457850	1	1	1				402	401
PONU7*22916	PONU7122916	PONU7122916	PONU7022916	PONU7122916	1	0	1	1			402	400
ICSU6944269	ICSU69442**	???????????	ICSU44269%%	ICSU6944%%%	0	0	0		1		410	408
TPHU4916661	TPHU4916661	TPHU4916661	TPHU4916661	TPHU4916661	1	1	1				418	415
TRLU4942718	TRLU4942718	TRLU4942718		TRLU4942718	1	0	1				414	411
ICSU6974366	ICSU69743*6	ICSU6974366	ICSU6974366	ICSU697436%	1	1	1		1		425	422
ICSU6940392	IC*U6940392	ICSU6940392		ICJU6940392	1	0	0		1		422	419
PONU09509*7	PONU0950987	PONU0950987		PONU0950987	1	0	1	1			427	426
POCU0618388	POCU0618388	POCU0611830		POCU0611838	0	0	0				431	430

Nb of containers	181	Match Code ID	146		
Nb Of Invalid	12	Match Code ID C1	101	Nb Of Invalid C1	29
Nb Of Valid	169	Match Code ID C2	96	Nb Of Invalid C2	47
Perfect match code	69				

	C1	C2	PoM	TOTAL
Accuracy :	66,45%	71,64%	86,39%	80,66%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown as represented by the Gov Of Canada — Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-24	16 38 43	874		535	535	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
***********	MSKU8187465	MSKU8187465		MSKU8187465	1	0	1	1			10	13
TGHU7438758	TGHU7438758	TGHU7438758	TGHU7438758	TOHU7438758	1	1	0				14	16
MAEU80987*1	MAEU8098781	MAEU0987611	MAEU0987611	MAEU8098781	0	0	1	1			17	19
PONU7137285	PONU7137285	PONU7137285	PONU7137285	POUU7337285	1	1	0				20	22
TTNU9250077	TTNU9250077	TTNU9250077	TTNU9250077		1	1	0				24	26
PONU0362073	PONU0362073	PONU0362073	PONU0362073	PONU0362073	1	1	1				28	28
PONU0127114	PONU0127114	PONU0127114	PONU0127114	PONU0127114	1	1	1				29	30
MSCU8580452	MSCU8580452	MSCU8580452	MSCU8580452	MSCU858045%	1	1	1				28	30
PONU0294446	PONU0294446	PONU0294446	PONU0294446	MSCU1633761	1	1	0				31	32
MSCU1633761	MSCU1633761	MSCU1633782	MSCU1633781		0	0	0				33	33
MSKU8032*16	MSKU8032416	MSKU8032416	MSKU803211%	MSKU8032416	1	0	1	1			31	33
MSCU2147933	MSCU2147933	MSCU2147933	MSCU2147933	MSCU2147933	1	1	1				37	37
PONU0843016	PONU0843016	PONU0843016	PONU0843016		1	1	0				35	36
TRIU5918917	TRIU5918917	TRIU5918917	TRIU5918917	TRIU5918917	1	1	1				35	37
MSCU4220606	MSCU4220606	MSCU4220606		MSCU4220606	1	0	1				39	41
CAXU6193765	CAXU*1937*5	CAXU6193765	CAXU6193765	CAXU0193765	1	1	0		1		40	41
MAEU7937973	MAEU7937973	MAEU7937973	MAEU7937973		1	1	0				39	40
MSCU8898593	MSCU8898593	MSCU8898593	MSCU8898593	MSCU8898593	1	1	1				43	45
TGHU7058784	TGHU7058784	TGHU7058784	IGHU7058784	TGHU7058784	1	0	1				43	45
IEAU2233073	IEAU2233073	IEAU2233073	IEAU2233073	IEAU2233073	1	1	1				47	48
*LDU0205*94	*LDU*205*94	GLDU0205594	GLOU0205694	GLOU0205594	1	0	0	1	1		49	49
FSCU327230*	FSCU3272300	FSCU3272300	FSCU3272300	FSCU3272300	1	1	1	1			51	52
MAEU6961677	MAEU6961677	MAEU6961677	MAEU6961677	MAEU6961677	1	1	1				52	53
MSKU8295080	MSKU8295080	MSKU8295080	MSKU8295080	MSKU8295080	1	1	1				51	53
MAEU7743659	MAEU7743**9	MAEU7743659	MAEU7743659	MAEU7743699	1	1	0		1		55	56
SEAU2220137	SEAU2220137	SEAU2220137	SEAU2220137	SEAU2270137	1	1	0				56	57
MAEU6835787	MAEU6*35787	MAEU6835787	MAEU6835787	@GEU6635787	1	1	0		1		59	60
MAEU6975855	MAEU6975855	MAEU6975855	MAEU6975855	MAEU6975855	1	1	1				60	61
TTNU4663165	TTNU4663165	TTNU4663165	TTNU4663165		1	1	0				63	65
HL*U4*024*7	HLXU4102487	HLXU4102487	HLXU6024147	HLXU4102487	1	0	1	1			66	68
HLXU4187925	HLXU4187925	HLXU4187925	HLXU4187925	HLXU4187925	1	1	1				69	71
GLDU0228028	GLDU0228028	GLOU0228021	GLOU0228028	GLOU0228028	0	0	0				72	73
GLDU2091232	GLDU2091232	GLOU2091236	GLOU2091232	GLOU2091232	0	0	0				74	74
OOLU5138983	OOLU5138983	OOLU5138983	OOLU5138983	GOLU5138983	1	1	0				76	77
OOLU7170069	OOLU7170069	OOLU7170069	OOLU7170069	OOLU7170069	1	1	1				80	81
OOLU7142107	OOLU7142107	OOLU7142107	OOLU7142107	OOLU712107%	1	1	0				83	84
IN*U494361*	INBU494361*	INBU4943613	INOU4943613		1	0	0	1	1		87	89
TRIU5051132	TRIU5051132	TRIU5051132	TRIU5051132	TRIU5051132	1	1	1				87	89
TCKU9518861	TC*U951**61	TCKU9518861	TCKU9518861		1	1	0		1		91	93
INBU4755*86	INBU4755386	INBU4755386	INBU4755386	INBU4755386	1	1	1	1			91	93
SEAU*356882	SEAU8356882	OOZU4020007	OOZU4020000	SEAU8356882	0	0	1	1			96	98
****4922676	****4922676				0	0	0	1	1	1	96	98
SEAU86517*0	SEAU8651770	SEAU8651701	SEAU865170%	SEAU8651770	0	0	1	1			100	102
T*I*535*31*	T*I*5351*1*	???U05?4310	LT+U05+4310	IGIU05+4310	0	0	0	1	1	1	100	102
MAEU8403648	MAEU8403648	MAEU8403648	MAEU8403648	MAEU8403648	1	1	1				104	106
TRIU4572012	TRIU4572012				0	0	0				104	106
MSKU8053764	MSKU8053764	MSKU8053764	MSKU8053764	MSKU8053764	1	1	1				109	111
INNU5217377	INNU5217377	UNNU5217379	UNNU5217377	OMNU5211737	0	0	0				109	111
GESU4503991	GESU4503991	GESU1503998	GESU1503991	GESU150391%	0	0	0				113	114
TCKU902066*	TC*U9020668				0	0	0	1	1		113	114
UESU4519902	UESU451**02	UESU4519902	UESU4519902		1	1	0		1		116	118
TTNU5246084	TTNU52460*4	TTMU5246080	TTMU5246084		0	0	0				116	118
TTNU9416316	TTNU9416316	TTNU9416316	TTNU9416316		1	1	0				120	122
MAEU6271157	MAEU6271157	MAEU6271157	MAEU627167%	MAEU6271157	1	0	1				120	122
FRLU*******	***********	MZYU6383???		MZYU6383%%%	0	0	0	1	1	1	123	125
MAEU8250699	*AEU8*506*9	MAEU8250699	MAEU8250699	MAEU825064%	1	1	0		1		123	125
TRIU*064924	T*IU9*64924	TRIU9064924	TRIU9064924	TRIU9064924	1	1	1	1	1		128	130
SEAU8091485	SEAU*0914*5	SEAU8091485	SEAU8091485	SEAU0091405	1	1	0		1		128	130
TTNU9319574	TTNU9319574	TTNU9319574	TTNU9319574	**TU9319574	1	1	0				132	134
PONU7261697	PONU7261697	PONU7261697	PONU7261697	PONU7261697	1	1	1				132	134
KNLU4292684	KN*U4292684	CNIU4297684	LNIU4292684	XNIU4297684	0	0	0		1		137	139
MAEU8079396	MAEU8079396	MAEU8079919	MAEU8079916	AAEU8073396	0	0	0				137	139
MWCU6110485	MWCU6110485	MWCU6110485	MWCU6110485	MWCU6110485	1	1	1				142	143
MHHU5622226	MHHU5622226	MHHU5622226	MHHU5622226	MHHU5622226	1	1	1				142	143
MWCU6003086	MWCU6003086	LIMU6003086	WLGU6003086	IIMU6003086	0	0	0				145	147

MWCU6265738	MWCU6*65*38	MWCU6261732	MWCU6261738	MWLU0470086	0	0	0		1		145	147
MWCU6263036	MWCU6*63036	MWCU6263036	MWCU6263036	MWCU6808960	1	1	0		1		149	151
KNLU4715641	KN*U*715641	HNLU4715660	HNLU4715661	KNLU715641%	0	0	0		1		149	151
MWCU6542339	MWCU6542339	MWCU6542339	MWCU6542339	MWCU6547339	1	1	0				154	156
TRIU7409436	TRIU7409436	TRIU7409436	TRIU7409436	TRIU7409436	1	1	1				154	156
***********	CNGU000870*	CSLU??0870?		CSLU%%0870%	0	0	0	1	1	1	159	161
MWCU6590907	MWCU6590907	MWCU6590907	MWCU6590907	MWCU6590907	1	1	1				159	161
PONU4781397	PONU4781397	PONU4781397	PONU4781397	PONU4781397	1	1	1				164	166
KNLU4713947	KNLU4713947	KNLU4713947	KNLU4713947	KNLU4713947	1	1	1				164	166
MAEU5745821	MAEU5745821	MAEU5745821	MAEU5745821	MAEU5745821	1	1	1				168	170
PONU4721572	PONU4*215*2	PONU4725177	PONU472+157	PONU412572%	0	0	0		1		172	173
TOLU5875650	TOLU5875650	TOLU5875650	TOLU5875650	TOLU5875651	1	1	0				175	177
KNLU4720294	KNLU4720294	KNLU4720294	KNLU4720294	KNLU4720294	1	1	1				178	180
SEAU8705177	SEAU870517*	SEAU8705177	SEAU8705177	SEAU8705179	1	1	0		1		181	183
TORU7204268	TORU7204268	TORU7204268	TORU7204268	TORU7204%%%	1	1	0				185	186
MSCU2915610	MSCU2915610	MSCU2915610	MSCU2915610	MSCU2915610	1	1	1				186	187
MSCU8884033	MSCU8884033	MSCU8884033	MSCU888403%	MSCU888403%	1	1	1				189	191
MSCU8898850	MSCU8898850	MSCU8898850	MSCU8898850	MSCU8898850	1	1	1				193	195
ITLU5450187	ITLU5450187	ITLU5450187	TILU5450187	ITLU5450187	1	0	1				196	198
TRLU2357648	*RLU*357648	TRLU2357648	TRLU2357648	IZLU2357648	1	1	0		1		200	201
KNLU3398985	KNLU3398985	KNLU3398985	KNLU3398985	KNLU3398985	1	1	1				201	202
MAEU6104210	MAEU6104210	WUZU6104214	GG+U6104210	WUZU6104210	0	0	0				204	205
POCU4206500	POCU4206500	POCU4206500	POCU4206500	POCU4206500	1	1	1				207	209
KNLU4608710	KNLU4608710	KNLU4608710	KNLU4608710	KNLU4608713	1	1	0				211	213
TPHU6537707	TPHU6537707	TPHU6537707	TPHU6537707	TMIU6537707	1	1	0				215	216
GS*U2809849	***********	GSTU2809849	GSIU2809849		1	0	0	1	1		217	217
OCLU4227969	OCLU4227969	OCLU4227969	OCLU4227969	OCLU4227969	1	1	1				215	217
MSKU2117990	MSKU*117990	MSKU2117990	MSKU2117990	MSKU2117990	1	1	1		1		220	221
TTNU24768**	TTNU24768**	??NU2?768??	@TNU29768%%	TINU24768%%	0	0	0	1	1	1	221	222
MSCU8812440	MSCU8812440	MSCU8812440	MSCU8812440	MSCU8812440	1	1	1				220	222
MSCU155883*	MSCU155883*	MSCU1558837		MSCU1558833	1	0	0	1	1		225	225
MSKU2009023	MSKU2009023	MSKU2009023	MSKU2009023	MSKU2009023	1	1	1				226	226
TTNU9176766	TTNU9176766	TTNU9176766	TTNU9176766		1	1	0				225	226
PONU0996437	PONU0996437	PONU0996437	PONU0996437	PONU0996437	1	1	1				229	230
MSCU2250509	MSCU2250509	MSCU2250509	MSCU2250509	MSCU2250509	1	1	1				231	231
TTNU9566091	TTNU9566091	TTNU9566091	TTNU9566091		1	1	0				229	231
NYKU2509465	NYKU2509465	NYKU2509465	NYKU2509465	NYGU2509465	1	1	0				234	234
KNLU3427701	KNLU3427701	KNLU3427701	KNLU3427701	KNLU3427701	1	1	1				235	236
NYKU6097812	NYKU6097812	NYKU6097812	NYKU6097812	NYKU6097812	1	1	1				234	236
MAEU6828345	MAEU6828345	MAEU6828345	MAEU6828345	MAEU6828345	1	1	1				238	239
KNLU3319219	KNLU331921*	KNLU3319219	XNLU3319219	INLU3319219	1	0	0		1		239	240
PONU1420343	PONU1420343	PONU1420343	PONU1420343	PONU1420343	1	1	1				238	240
NYKU2335620	NYKU2335620	NYKU2335620	NYKU2335620		1	1	0				243	243
GSTU2393010	***********	GSTU2393010	GSTU2393010	NYKU2435758	1	1	0		1		244	245
TCKU9003151	TC*U900***1	TCKU9003151	TCKU9003150		1	0	0		1		243	245
NYKU2435758	NYKU2435758	NYKU2435758	NYKU2435758	MCTU1049203	1	1	0				247	247
ACTU*045203	ACTU1*45203	ICDU1045200	ICDU1045203		0	0	0	1	1		248	249
SEAU8377458	S*AU***745*	SEAU8377458	SEAU8377458	GIDU00081%%	1	1	0		1		247	249
SCMU2*38259	SCMU2038259	SCMU2038259	SCMU2038259	SCMU2038259	1	1	1	1			252	253
IPXU2234456	IPXU2234456	?IIU2234451	@IIU2234451		0	0	0				251	251
**IU90826*2	*RIU9082*82	IGIU9082680	IGIU9082682	IRIU9082821	0	0	0	1	1	1	251	253
TGHU230551*	TGHU230551*	TGHU2305515	TGHU230551%	TGHU230551%	1	1	1	1	1		256	256
TTNU367220*	TTNU367220*	TTNU3672202	TTNU367220%	TTNU30220%%	1	1	0	1	1		257	257
TTNU9580084	TTNU9580084	TTNU9580084	TTNU9580084		1	1	0				256	257
HLXU2607103	HLXU2607103	HLXU2607103	HLXU2607103	HLXU2607103	1	1	1				259	260
TTNU259699*	TTNU259699*	TTNU2596999	TTNU259699%	TTNU259699%	1	1	1	1	1		260	261
FSCU3268450	FSCU3268450	FSCU3268450	FSCU3268450	FSCU3268450	1	1	1				263	264
HLXU2139810	HLXU2139810	HLXU2139810	HLXU2139810	HLXU2135810	1	1	0				264	265
PONU7364226	PONU7364226	PONU7364226	PONU7364226	PONU7364226	1	1	1				263	265
MSCU2265010	MSCU22**010	MSCU2265010	MSCU225010%	MSCU2265010	1	0	0		1		267	267
MSCU1241729	MSCU1241729	MSCU1241729	MSCU1241%%%	MSCU1241729	1	0	1				268	268
TEXU3303503	TEXU3303**3	TEXU3303503	TEXU3303503	TEXU3303563	1	1	0		1		270	271
XTRU2095147	***********	XTRU2095147	XTRU2095147		1	1	0		1		272	272
HLXU2602858	HLXU2602858	HLXU2602858	HLXU2602856	HLXU2602858	1	0	1				276	277
HLXU2305994	HLXU2305994	HLXU2305994	HLXU2305994		1	1	0				275	276
HLCU4636450	HLCU4636450	HLCU4636450	HLCU4636450	HLCU636450%	1	1	0				275	277
CRXU2119682	CRXU2119682	CRXU2119682	CRXU2119682	CRXU211968%	1	1	1				280	281
INBU*296847	IN*U3296847	INBU3296847	INBU3296847	@@IU3299007	1	1	0	1	1		281	282
UESU461491*	UESU461491*	?ESU4614916	@ESU4614916		0	0	0	1	1	1	280	282
SCZU8748650	SCZU8748650	SCZU8748650	SCZU8748650	OMOU91+2771	1	1	0				285	286

HLXU2295725	HLXU2295725	HLXU2295725	HLKU2295725	HLXU2295725	1	0	1				286	287
HLXU2072716	HLXU2072716	HLXU2072716	HLXU2072716	HLXU2072716	1	1	1				290	291
HLCU2253914	HLCU225*914	HLCU2253914	HLCU2253914	HLCU2253910	1	1	0		1		291	292
HLXU4421930	HLXU4421930	HLXU4421930	HLXU4421930	HLXU4421930	1	1	1				290	292
EXFU1486725	EXFU1486725				0	0	0				294	295
HLXU2608178	HLXU2608178	HLXU2608178	HLXU2608178	HLXU2608178	1	1	1				296	296
HLXU2161686	HLXU2161686	HLXU2161686	HLXU2161686	HLXU2161686	1	1	1				299	300
TPHU2519639	TPHU2519639	TPHU2519639	TPHU2519639	TPHU2519639	1	1	1				300	301
NYKU6019867	NYKU6019867	NYKU6019867	NYKU6019867	NYKU6019867	1	1	1				299	301
*LCU*22*495	**C*2**7495	FLCU7228513	FLCU7228519	FICU2336854	0	0	0	1	1	1	304	305
MSCU2340639	MSCU2340639	MSCU2340639	MSCU2340809	MSCU2340639	1	0	1				305	306
*ONU1240845	PONU1240845	PONU1240845	RONU1240845	PONU1240845	1	0	1	1			304	306
INBU5059145	INBU5059145	INBU5059145	INBU5059145	INBU505914%	1	1	1				308	310
PONU1457893	PONU1457893	PONU1457893	PONU1457893	PONU1457893	1	1	1				308	310
PONU13095*1	PONU1309561	PONU1309561	PONU1309561	PONU1309561	1	1	1				313	315
PONU7417434	PONU7417434	PONU7417434	PONU7417434	PONU7417434	1	1	1				313	315
GSTU7671602	***********	GSTU7671602	GSTU767160%		1	1	0		1		317	319
PONU1258000	PONU1258000	PONU1258000	PONU12581%%	PONU1758000	1	0	0				317	319
PONU0702208	PONU0702208	PONU0702208	POMU0702208	PONU0702208	1	0	1				322	323
HLCU2250284	HLCU2250284	HLCU2250284	HLCU2250284	HLCU2250286	1	1	0				323	324
APMU8055203	APMU8055203	APMU8055203	APMU8055203	APMU8055203	1	1	1				322	324
HLXU2603514	HLXU2603514	HLXU2603514	HLXU2603514	HLXU2603514	1	1	1				327	328
TCKU9640524	TCKU9640524				0	0	0				327	329
MSCU2989274	MSCU2989274	MSCU2989274	MSCU2989774	MSCU2989274	1	0	1				328	329
HLXU2614170	HLXU2614170	HLXU2614170	HLXU2614%%%	HLXU2614170	1	0	1				331	332
GSTU2615210	*******5210	GSTU2615210	GSTU2615210		1	1	0		1		333	333
MAEU82633**	MAEU8263398	MAEU8263398	MAEU826330%	MAEU8263398	1	0	1	1			331	333
GATU0127627	GATU0127627	GATU0127627	GATU0127627	GATU0127627	1	1	1				336	337
HLCU2433006	HLCU2433006	HLCU2433006	HLCU2433007	HLFU2433006	1	0	0				337	338
CRXU9745374	CRXU9745374	CRXU9745374	CRXU9745374	@@RU9745374	1	1	0				336	338
HLCU2251125	HLCU2251125	HLCU2251125	HLCU2251125	HLCU225112%	1	1	1				342	343
HLXU2262552	HLXU2262552	HLXU2262552	HLXU2262552		1	1	0				341	341
HLCU2159765	HLCU21597*5	HLCU2159765	HLCU2159765	HLCU2159765	1	1	1		1		345	345
HLCU2222111	HLCU2222111	HLCU2222111	HLCU2222114	HLCU2222111	1	0	1				346	347
HLXU2318991	HLXU2318991	HLXU2318991		HLXU2318991	1	0	1				350	350
GATU*363725	*ATU0363725	GATU0363725	GATU336372%	GATU0363725	1	0	1	1	1		348	349
HLCU2223519	HLCU2223519	HLCU2223519	HLCU2223510	HLCU2223519	1	0	1				352	353
HLCU2417751	HLCU24*7751	HLCU2417751	HLCU2417751	HLCU2417751	1	1	1		1		353	354
HLCU2435185	HLCU2435185	HLCU2435185	ILCU2416518	HLCU2435185	1	0	1				356	357
**CU2646207	HLCU2646207	HLCU2646207	I+CU2646207	HLCU2646207	1	0	1	1			357	358
HLXU20213*5	HLXU2021365	HLXU2021365	HLXU2021315	HLXU2021365	1	0	1	1			360	361
HLCU2106410	HLCU2106410	HLCU2106410	HLCU2106410	HLCU2106410	1	1	1				361	362
MSCU1085689	MSCU1085689	MSCU1085689	MSCU1085689	MSCU1085689	1	1	1				364	365
MSCU1304940	MSCU1304940	MSCU1304940	MSCU1304940		1	1	0				365	366
PONU0341189	PONU0341189	PONU0341189	PONU0341189	PONU0341189	1	1	1				368	369
SEAU2201939	SEAU2201939	AEAU2211939	SEAU2201939	LEAU2211939	0	1	0				369	370
PONU7668851	PONU7668851	PONU7668851	PONU7668851	PONU7668851	1	1	1				372	374
POCU1169846	POCU1169846	POCU1169846	POCU1169846	POCU1169846	1	1	1				376	378
MSCU8042631	MSCU8042631	MSCU8042631	MSCU804263%	MSCU804263%	1	1	1				376	378
MSKU6183265	MSKU6183265	MSKU6183265	MSKU6183265	MSKU6183265	1	1	1				380	382
CRXU4642178	C*XU4642178	CRXU4642178	CRXU4642178	CNXU4642178	1	1	0		1		380	382
GSTU6701343	***U***1**3	GSTU6701343	GSTU6701343		1	1	0		1		385	387
HLXU4196249	HLXU4196249	HLXU4196249	HLXU4196249	HLXU4196249	1	1	1				385	387
INKU2535765	INKU25357*5	INKU2535765	INKU2535765		1	1	0		1		389	390
PONU1475475	PONU1475475	PONU1475475	PONU1475475	PONU1475475	1	1	1				392	394
U79*7	***U***7**7				0	0	0	1	1	1	392	394
OCLU1*06759	OCLU1506759	OCLU1506759	OCLU1506759	OCLU1506759	1	1	1	1			397	399
PONU7103500	PONU7103500	PONU7103500	PONU7103500	PONU7103500	1	1	1				397	399
HLXU4497978	HLXU4497978	HLXU4497978	HLXU4497978	HLXU4497978	1	1	1				401	403
PONU7641552	PONU7641552	PONU7641552	PONU7641552	PONU7641552	1	1	1				401	403
CRXU6801113	CRXU6801113	CRXU6801113	CRXU6801113	CRXU6801113	1	1	1				406	408
PONU1438698	PONU1438698	PONU1438698	PONU1438698	PONU1438698	1	1	1				406	408
FSCU3245789	FSCU3245789	FSCU3245789	FSCU3245789	FSCU3245789	1	1	1				410	410
HLXU6706932	HLXU670693*	HLXU6706932	HLXU6706932	HLXU670+693	1	1	0		1		413	415
HLCU478716*	HLCU4787164	HLCU4787164	HLCU478716%	HLCU4787164	1	1	1	1			416	418
HLCU4781021	HLCU4781021	HLCU4781021	HLCU4781021	HIIU4781021	1	1	0				420	421
POCU0666072	POCU0666072	POCU0666072	POCU0666072	POCU0666072	1	1	1				423	424
TRLU3194458	TRLU3194458	TRLU3194458	TRLU3194458	TRLU3194458	1	1	1				424	425
EU45842	GCEU6045842	GCEU6045842	SBAU0543%%%	GCEU6045842	1	0	1	1			427	429
KN*U4720186	KNLU4720186	KNLU4120181	NIIU477=181	KNLU4120186	0	0	0	1			427	429

GESU9094751	GESU9094751	GESU9094751	GESU9094751	GESU9094751	1	1	1				432	434
PONU4781843	PONU4781843	PONU4781843	PONU4781843	PONU4781843	1	1	1				432	434
PONU4836020	PONU4836020	PONU4836020	PONU4836020	PONU4836020	1	1	1				437	439
KNLU4716545	KNLU4716545	KNLU4716545	INLU4716545	KNLU4716545	1	0	1				437	439
PONU4802503	PONU4802503	PONU4802503	PONU4802503	PONU4802503	1	1	1				442	444
***********	CNGU000842*				0	0	0	1	1	1	442	444
CRLU5185530	CRLU5185530	CRLU5185530	CRLU5185530	CRLU5185530	1	1	1				446	448
GESU9094330	GESU9094330	GISU9094337	GISU9094330	GISU9094330	0	0	0				446	448
MAEU5790841	MAEU5790841	MAEU5791241	MAEU5791%%%	MAIU5791841	0	0	0				450	452
ICSU5911342	ICSU5911342	ICSU5911342	ICSU5911342	@LSU59+342%	1	1	0				450	452
MWCU6164218	MWCU6164218	MWCU6164218	MWCU6164218	MWCU616478%	1	1	0				455	456
GCEU6626533	CCEU6626533	GCEU6626533	GCEU6626533	CCEU6626533	1	1	1				455	456
MWCU6615800	MWCU6615800	MWCU6615800	MWCU6615800	MWCU6615800	1	1	1				458	460
CRXU6901766	CRXU6901766	CRXU6901766	CRXU6901766	CRXU901166%	1	1	0				458	460
GATU0035665	GATU0035665	GATU0035665	GATU0035665	GATU0035665	1	1	1				462	463
OCLU0903941	OC*U090*941	OCLU0903941	OCLU090394%	OC+U0903943	1	1	0		1		463	464
HLCU2126416	HLCU2126416	HLCU2126416	HLCU2126416	HLCU2126416	1	1	1				466	466
HLXU2149232	HLXU214923*	HLXU2149232	HLXU2149232	HLXU2149232	1	1	1		1		467	468
HLXU2050240	HLXU2050240	HLXU2050240	HLXU2050240	HLXU2050240	1	1	1				469	470
HLXU2603983	HLXU2603983	HLXU2603983	HLXU2603983	HLXU2603983	1	1	1				470	471
POCU3001**6	POCU3101**6	POCU3101486	POCU3001+86	POCU31015%%	0	0	0	1	1	1	469	471
HLXU2167318	HLXU2167318	HLXU2167318	HLXU2167318		1	1	0				473	473
TTNU29942**	TTNU29942**	ILXU2167319	TTNU29942%%	ILXU2167318	0	0	0	1	1	1	474	474
TGHU200510*	TGHU20051**	TGHU2005101	TGHU200510%	TGHU200510%	1	1	1	1	1		476	477
NYKU2394659	NYKU2394659	NYKU2394659	NYKU2394659	NYKU2394659	1	1	1				477	478
HLXU222*00*	HLXU2221002	HLXU2221002	HLXU2224100	HLXU2221002	1	0	1	1			480	481
NYKU2461187	NYKU2461187	NYKU2461187	NYKU2461187	NYKU2461187	1	1	1				482	482
MAEU7096608	MAEU7096608	MAEU7096608	MAPU7091608	MAEU7096608	1	0	1				480	482
HL*U2*12357	HLCU2*12357	HLCU2612357	HLZU2612357	HLCU2812357	1	0	0	1	1		484	485
HLXU2609786	HLXU2609*86	HLXU2609786	HLXU2609786	HLXU2609786	1	1	1		1		485	486
PONU1332221	PONU1332221	PONU1332221	PONU1332221	PONU1332221	1	1	1				484	486
HLCU2105687	HLCU210568*	HLCU2105687	HLCU2105687	HLCU210568%	1	1	1		1		488	489
H*CU2616413	H*CU2*16413	HICU2016413	HICU2016410	HICU2816413	0	0	0	1	1	1	489	490
NYKU6127305	NYKU6127305	NYKU6127305	NYKU6127305	NYGU6127305	1	1	0				488	490
T*IU2924412	T*IU2924412	TPTU2924412	TPIU2924412	MYMU2302335	0	0	0	1	1	1	492	492
NYKU236255*	NYKU2362559	MSCU2944407	NYKU2362558	MSCU2944407	0	0	0	1			493	494
HLCU4*790*9	HL*U45790*9	HLCU4879039	HLCU4879049	HLGU6579039	0	0	0	1	1		492	494
MSCU2944407	MSCU2944407	MSCU2944407	MSCU2944407	NYKU2434793	1	1	0				495	496
NYKU2434793	NYKU2434793	NYKU2434793	NYKU2434793	MSCU2624701	1	1	0				497	497
PONU1437618	PONU1437618	PONU1437618	PONU143%%%%	PONU1437618	1	0	1				495	497
NYKU2494339	NYKU2494339	NYKU2494339	MYNU2494339	NYKU2494339	1	0	1				502	502
MSCU2624701	MSCU2624701	MSCU2624701	MSCU2624701		1	1	0				500	501
PONU1332495	PONU1332495	PONU1332495	PONU1332495	PONU1332499	1	1	0				500	502
TRIU3752792	TRIU3752792	TRIU3752792	TRIU3752792	IRIU3752792	1	1	0				505	506
HLCU2*04177	H*CU2*04177	HLCU8041717	HUCU2604171	HLCU8041717	0	0	0	1	1	1	506	507
POCU1101614	POCU11*1614	POCU1101614	POCU1101614	POCU1101614	1	1	1		1		510	512
MSKU6188930	MSKU6188930	MSKU6188930	MSKU6188930	MSKU6188930	1	1	1				515	517
HLCU4250051	HLCU4250051	HLCU4250051	HLCU4250051	HLCU4250051	1	1	1				518	520
HLXU4089723	HLXU4089723	HLXU4089723	HLXU4089723	HLXU4089723	1	1	1				522	524
MAEU8396087	MAEU8396087	MAEU8396087	MAEU8396087	MAEU8396087	1	1	1				526	528
GSTU9059875	***********	GSTU9059875	GSTU9059875		1	1	0		1		530	531

Nb of containers	254	Match Code ID	213		
Nb Of invalid	13	Match Code ID C1	175	Nb Of invalid C1	47
Nb Of Valid	241	Match Code ID C2	139	Nb Of invalid C2	65
Perfect match code	102				

	C1	C2	PoM	TOTAL
Accuracy	84,54%	73,54%	88,38%	83,89%

DTi Representative | Date

Port of Montreal Representative | Date

The Crown, as represented by the Gov. Of Canada | Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO.	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-25	03 47 22	880		149	149	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
OOLU7209432	OOLU7209432	OOLU7209432	OOLU7209432	OOLU7209432	1	1	1				9	11
TEXU7186811	TEXU7186811	TEXU7186811	TEXU7186811	TEXU7186811	1	1	1				9	11
MLCU4314620	MLCU4314620	MLCU4314620	IAGU4310%%%	MLCU4314620	1	0	1				13	16
OOLU5715494	OOLU5715494	OOLU5715494	UOLU5715497	OOLU5715494	1	0	1				13	16
OOLU7113773	OOLU7113773	OOLU7113773	OOLU7113773	OOLU7113773	1	1	1				17	18
OOLU8024942	OOLU8024942	OOLU8024942	OOLU8024902	OOLU8024942	1	0	1				17	18
GSTU*3*7***	GSTU*307869	OSSU1307060		OSTU1307060	0	0	0	1	1	1	20	21
OOLU5741127	OOLU5741127	OOLU5741127	OOLU5741127	OOLU5741127	1	1	1				20	21
OOLU5139315	OOLU5139315	OOLU5139315	OOLU5139315	OOLU5139315	1	1	1				23	25
OOLU5540992	OOLU5540992	OOLU5540992	OOLU5540992	OOLU5540992	1	1	1				23	25
TEXU4517156	TEXU4517156	TEXU4517156	TEXU4517156	TEXU4517156	1	1	1				26	28
TGHU7668133	TGHU7668133	TSHU7668137	TSHU7668136	B@@U310029%	0	0	0				26	28
HLXU4650773	HLXU4650773	HLXU4650773	HLXU4650773		1	1	0				29	31
KNLU433891*	KNLU4338912	KNLU4338912	KNLU4338919	KNLU4338912	1	0	1	1			33	35
HLXU4147250	HLXU4147250	HLXU4147250	HLXU4147250	HLXU4147250	1	1	1				36	38
MAEU6152034	MAEU6152034	???????????	MAEU63204%%	IAEU61523%%	0	0	0				39	41
MSCU1841908	MSCU1841908	MSCU1841908	MSCU1841908	MSCU1841908	1	1	1				43	44
HLCU2432756	HLCU2432756	HLCU2402751	HLCU2482751	HLCU2402759	0	0	0				46	47
MSCU1296249	MSCU129624*	USCU1296246	USCU1296240		0	0	0		1		47	48
PONU7287900	PONU7287900	PONU7287900	PONU7287900	PONU7287900	1	1	1				50	51
PONU16*3530	PONU1623530	PONU1673531	PONU1673530	PONU1673530	0	0	0	1			50	51
MAEU7878783	MAEU7878783	MAEU7878783	MAEU7878783	MAEU7878783	1	1	1				53	54
HLXU2163781	HLXU2163781	HLXU2163781	HLXU2163781	HLXU2163781	1	1	1				55	55
GATU0476790	GATU0476790	GATU0476790	GATU0476790	GATU1476790	1	1	0				58	59
GATU0946208	GATU0946208	GATU0946208	GATU0946208	GATU0946208	1	1	1				59	60
KN*U4312306	KNLU4312306	KNLU4312306	KN+U4117306	KNLU4312306	1	0	1	1			58	60
TOLU4846940	TOLU4846940	TOLU4846940	TOLU4846940	TOLU4846940	1	1	1				63	64
HLCU4539297	HLCU4539297	HLCU4539297	HLCU4539297	HLCU4539297	1	1	1				63	64
HLXU4271358	HLXU4271358	HLXU4271358	HLXU4271358	HLXU4271358	1	1	1				67	69
HLXU6130683	HLXU6130683	HLXU6130683	HLXU6130683	HLXU6130683	1	1	1				67	69
HLXU4596878	HLXU45968**	HLXU4596878	HLXU4596878	HLXU4596871	1	1	0		1		71	73
HLCU4630025	HLCU4630025	HLCU4630025	WMWU8550%%%	HLCU4630025	1	0	1				71	73
OCLU4194870	OCLU4194870	OCLU4194870	OCLU4194870	OCLU4194870	1	1	1				76	76
POCU4010591	POCU4010591	POCU4010591	POCU4010590	POCU4010591	1	0	1				77	77
HLXU4123710	HLXU4123710	HLXU4123710	HLXU4123710	HLXU4123710	1	1	1				76	77
OOLU5071811	OOLU5071811	OOLU5071811	OOLU5071811	OOLU5071811	1	1	1				79	81
OOLU5176730	OOLU5176730	OOLU5176730	OOLU5176730	OOLU5176730	1	1	1				82	84
OOLU3575876	OOLU3575876	OOLU3575876	OOLU3575876	OOLU3575876	1	1	1				85	85
TEXU2301018	TEXU2301018	TEXU2301018	TEXU2301018	TEXU2301018	1	1	1				89	89
OOLU5157406	OOLU5157406	OOLU5157406	OOLU5157406	OOLU5157406	1	1	1				91	93
OCLU70*0506	OCLU*020*06	OCLU7020506	OCLU7020506	OCLU02006%%	1	1	0	1	1		91	93
OOLU7199669	OOLU7199669	OOLU7199669	OOLU7199669	OOLU7199669	1	1	1				95	96
CLHU8453915	CLHU8453915	CLHU8453915	CLHU845391%	CLHU8453915	1	1	1				95	96
TEXU4427453	TEXU4427453	TEXU4427453	TEXU4427453	TEXU4427453	1	1	1				98	100
PONU7222788	PONU7222788	PONU7222788	PONU7272788	POFU1222788	1	0	0				98	100
OOLU5320350	OOLU5320350	OOLU5320350	OOLU5320350	OOLU5320350	1	1	1				102	103
GATU8583285	GATU8583285	GATU8583285	GATU8583289	GATU8583285	1	0	1				102	103
OOLU5324139	OOLU5324139	OOLU5324139	OOLU5324139	OOLU5324139	1	1	1				105	106
TU*6**0	GSTU8396320	GSTU8396320	O+TU0146320	GSTU8396320	1	0	1	1			105	106
TRIU9862523	TRIU9862523	TRIU9862523	TRIU9862523	TRIU9862523	1	1	1				109	111
GATU8183669	GATU8183669	GATU8183669	GATU8183669	GATU8183669	1	1	1				109	111
HLCU2143537	HLCU2143537	HLCU2143537	ILCU211%%%%	HLCU2143537	1	0	1				113	114
TTNU2539577	TTNU2539577	TTNU2539577	TTUU2539577	TTNU2539577	1	0	1				115	115
HLXU4321232	HLXU4321232	HLXU4321232	HLXU4321232	HLXU4321232	1	1	1				113	115
HLXU2259311	HLXU2259311	HLXU2259311	HLXU2259311	HLXU2259311	1	1	1				118	119
HLXU2348466	HLXU2348466	HLXU2348466	HLXU2348466	HLXU2348466	1	1	1				119	120
OCLU1374333	OCLU1374333	OCLU1374333	OCLU1374333	OCLU1374333	1	1	1				118	120
EXFU1750777	EXFU1750777	EXFU1750777	EXFU7507710	EXFU1750777	1	0	1				122	123
HLC*2173193	HLCU2173193	HLCU2173193	HLCU2173193	HLCU2173193	1	1	1	1			123	124
GATU4037413	GATU4037413	GATU4037413	GATU4037413	GATU4037413	1	1	1				122	124
HLXU2108357	HLXU2108357	HLXU2108357	HLXU2108357	HLXU2108357	1	1	1				126	127
CAXU2290936	CAXU2290936	CAXU2290936	UAXU2290936	CAXU2290936	1	0	1				128	128
HLXU4539230	HLXU4539230	HLXU4539230	HLXU4539230	HLXU4539230	1	1	1				130	131
HLCU**03506	HLC*1203506	HLCU9403507	HLCU9403506	HLTU2035036	0	0	0	1	1		130	131
GLDU0902011	GLDU0902011	GLOU0902015	GLOU0902011	GLOU0902011	0	0	0				132	134

INBU4816497	INBU4816497	INBU4816497	INBU4810497	INBU4816497	1	0	1				132	134
KNLU5020823	KNLU5020823	KNLU5020823	KNLU5020823	KNLU5020823	1	1	1				135	137
GATU4338103	GATU43*8103	GATU4338103	GATU4338103	GATU4338103	1	1	1		1		135	137
HLXU2358124	HLXU2358124	HLXU2358124	HLXU2358124	HLXU2358124	1	1	1				138	139
HLX*20*418*	HLX*2054184	HLXU2064182	HLXU0+4185%	HLXU2064184	0	0	0	1	1	1	139	140
HLCU2407413	HLCU2407413	HLCU2407413	HLCU2407413	HLCU2407413	1	1	1				142	142
HLCU2432421	HLCU2432421	HLCU2432421	HLCU2432421	HLCU2432421	1	1	1				143	144
HLCU20**09*	***********				0	0	0	1	1	1	146	146

Nb of containers	73	Match Code ID	63		
Nb Of invalid	3	Match Code ID C1	48	Nb Of invalid C1	10
Nb Of Valid	70	Match Code ID C2	58	Nb Of invalid C2	8
Perfect match code	43				

	C1	C2	PoM	TOTAL
Accuracy :	76,19%	89,23%	90,00%	86,30%

DTI Representative Date

Port of Montreal Representative Date

The Crown as represented by the Gov Of Canada Date

DTI **Acceptance Tests Form**

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-25	14 51 28	884		338	338	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
FSCU4045928	FSCU4045928	FSCU4045928	FSCU4045928	FSCU404592%	1	1	1				16	14
TGHU7601660	TGHU7601660	TGHU7601660	TGHU7601660	TGHU760166%	1	1	1				16	14
TRLU4277562	TRLU4277562	TRLU4277562	TRLU427756%	TXLU4277562	1	1	0				22	19
PONU7329077	PONU7329077	PONU7329077	PONU7329077	PONU7329077	1	1	1				22	19
HLCU4078338	HLCU40783*8	HLCU4078338	HLCU4078338	HLCU4078338	1	1	1		1		27	25
PONU7165332	PONU7165332	PONU7165332	PONU7165302	PONU7165332	1	0	1				27	25
CARU4697421	CARU4697421	CARU4697421	CARU4697421	@@RU4697423	1	1	0				32	30
SEAU7864718	SEAU7864718	SEAU7864718	SEAU7964718	SEAU7864718	1	0	1				32	30
TRLU4059730	TRLU4059730	TRLU4059730	TRLU4059730	TRLU4059730	1	1	1				37	35
TEXU5223011	TEXU5223011	TEXU5223011	TEXU5223011	TEXU5223011	1	1	1				37	35
OOLU3163879	OOLU3163879	OOLU3163879	DOLU3163879	OOLU3163879	1	0	1				41	40
HLCU2163791	HLCU2163791	HLCU2163791	HLCU2163791	HLCU2163791	1	1	1				42	41
FSCU3830335	FSCU3830335	FSCU3830335	FSCU3890335	FSCU383033%	1	0	1				45	44
HLXU4495574	HLXU4495574	HLXU4495574	HLXU4495574	HLXU4495574	1	1	1				50	47
HLXU4017180	HLXU4*1718*	HLXU4017180	HLXU4017180	HLXU4017180	1	1	1		1		50	47
TRIU5015726	*RIU501572*	TRIU5015726	TRIU5015726	@@IU5015720	1	1	0		1		56	53
HLXU6114872	HLXU6114872	HLXU6114872	HLXU6114872	HLXU6114872	1	1	1				56	53
MSCU4262366	MSCU4262366	MSCU4262366	MSCU4262368	MSCU4262366	1	0	1				61	59
HLXU4246247	HLXU4246247	HLXU4246247	HLXU4246247	HLXU4246247	1	1	1				61	59
TTNU4626310	TTNU4626310	TTMU4626316	TTMU4626310		0	0	0				67	64
MSKU8344820	MSKU8344820	MSKU8344820	MSKU8344820	MSKU8344820	1	1	1				73	71
TEXU4918056	TEXU4918056	TEXU4918056	TEXU4918056	TEXU4918056	1	1	1				77	75
TRLU4717810	TRLU471*810	TRLU4717810	TRLU4717810	TRLU4714810	1	1	0		1		87	84
SEAU8476466	SEAU8476466	SEAU8496462	SEAU8496468	SEAU8496466	0	0	0				94	92
CRXU4757541	CRXU4757541	CRXU7575469		CRXU7575460	0	0	0				91	89
SEAU8702223	SEAU8702223	SEBU8702220	SEAU8702223	SEBU8702229	0	1	0				99	96
SEAU8707478	SEAU8707478	SEAU8707478	SEAU8707678	SEAU8707478	1	0	1				108	105
GSTU4570537	************	GSTU4570537	GSTU457053%		1	1	0		1		108	113
POCU4021467	POCU4021467	POCU4021467	POCU4021467	POCU4021467	1	1	1				113	111
PONU1313031	PONU1313031	PONU1313031	PONU131303%	PONU1313031	1	1	1				114	111
GSTU4457053	************				0	0	0		1		114	113
MSKU202*738	MSKU2028738	MSKU2028738	MSKU2026738	MSKU2028738	1	0	1	1			118	118
GLDU0366726	GLDU0366726	GLOU0366720	GLOU0366726	GLOU0366726	0	0	0				120	119
PONU1358416	PONU1358416	PONU1358416	PONU1358416	PONU1358416	1	1	1				120	118
MSCU4064400	MSCU4064400	MSCU4064400	KIZU4261%%%	MSCU4064400	1	0	1				126	123
KNLU5064502	KNLU5064502	KNLU5064502	KNLU5064502	KNIU5064502	1	1	0				126	123
MWCU6069910	MWCU6069910	MWCU6069910	MUCU6069910	UUCU6069910	1	0	0				132	129
MWCU6181318	MWCU6181318	MWCU6181318	NUCU6181318	UUCU6181318	1	0	0				132	129
CRLU1141344	CRLU1141344	CRLU1141344	CRLU1141344	CRLU1141344	1	1	1				138	135
MWCU6254420	MWCU6254420	MWCU6254420	AAUU6254420	MZCU6254420	1	0	0				138	135
CNGU000*43	CNGU000843	IMMU0108697		IMMU010869%	0	0	0	1	1	1	143	141
MWCU6578265	MWCU6578265	MWIU6178213	AAWU157871%	MWIU617821%	0	0	0				143	141
MWCU6609854	MWCU6609854	MWCU6609854	MMCU6609854	UUCU6609854	1	0	0				149	146
APMU5578664	APMU5578664	APMU5578664	APMU5578664	APMU7+8661%	1	1	0				149	146
MAEU5186873	MAEU5186873	MAEU5186873	MAEU5186873	MAEU5186873	1	1	1				155	152
MWCU6556266	MWCU6556266	WAVU6556267	WAVU6556266	NAWU61766%%	0	0	0				155	152
TCKU9591522	TC**9591522	TCKU9591522	TCKU9591522		1	1	0		1		160	158
PONU7469572	PONU7469572	PONU7469572	PONU7469572	PONU7469572	1	1	1				160	158
TRIU5764391	TRIU5764391	TRIU5764???	TRIU5764%%%		0	0	0				164	162
SCMU4306474	SCMU4306474	SCMU4306474	SCMU4306470	SCMU4306474	1	0	1				164	162
SEAU8112037	SEAU8112037	SEAU8112037	SEAU8112037	SEAU1203+71	1	1	0				168	166
TRIU*377010	TRIU5377010	TRIU3770100	@RIU377010%	TRIU377010%	0	0	0	1			168	166
TORU4202148	TORU4202148	TORU4202148	TORU420214%		1	1	0				172	170
MAEU6382464	MAEU6382464	MAEU6382464	MAEU6382464	MAEU6382464	1	1	1				172	170
TTNU9874052	TTN***74052	TTNU9874052	TTNU9874052		1	1	0		1		176	174
INKU2345127	INKU2345127	INKU2345127	INWU2345124	INKU2345127	1	0	1				176	174
GCEU4266778	***U***6778	GCEU2667787	GCEU266778%		0	0	0		1		180	179
MAEU7848876	MAEU7848876	NIQU7818876	NIAU7818876		0	0	0				182	181
SCZU3047913	SCZU3047913	SCZU3047913	SCZU3047913	SCZU30479%%	1	1	0				182	179
TTNU29364**	TT*U29364**	TTNU29364??	TTNU29364%%		0	0	0	1	1	1	187	185
C**U2355212	************	??BU2355218	@@BU2355218		0	0	0	1	1	1	188	187
TTNU467****	TTNU4674323	I?HU46743?3	I+HU46743+3		0	0	0	1			188	185
MAEU8379536	MAEU8379536	MAEU8379536	MAEU8379536	MAEU8379536	1	1	1				194	191
TTNU9918280	TTNU9918280	TTNU9918280	TTAU9918280	TTNU9918280	1	0	1				194	191
TTMU9136116	***U913****	TTMU9136116	TTMU9136110		1	0	0		1		212	210

MAEU714140*	MAEU7141409	MAEU7141409	AAEU7141409	MAEU7141169	1	0	0	1			216	214
GLDU0608959	GLDU0608959	GLOU0608952	GLOU0608959	GLOU0608959	0	0	0				220	218
PO*U7188636	PONU7188636	PONU7188636	PONU7188636	PONU7988636	1	1	0	1			224	222
CAXU6092414	C**********	CAXU6092414	CAXU6092414		1	1	0		1		228	228
ITLU6638570	ITLU6638570	ITLU6638570	ITLU6638570	IILU6638570	1	1	0				227	226
MSCU2106235	MSCU2106235	MSCU2106235	MSCU2106235	MSCU2106235	1	1	1				232	231
PONU0339978	PONU0339978	PONU0339978	PONU0339978	PONU0339978	1	1	1				234	233
PONU7307946	PONU7307946	PONU7307946	PONU7307946	PONU7307946	1	1	1				234	231
MSKU2544694	MSKU2544694	MSKU2544694	MSKU2544694	MSKU2544694	1	1	1				238	237
MSCU2335843	MSCU2335843	MSCU2335843	ASCU2335843	MSCU2335843	1	0	1				239	238
OCLU1513188	OCLU1513188	OCLU1513188	OCLU1513188	OCLU1513148	1	1	0				239	237
TRLU2423924	T*LU2*23**4	TRLU2423924	TRLU2423924		1	1	0		1		243	242
MAEU6784273	MAEU6784273	MAEU6784273	MAEU6784273	MAEU6784273	1	1	1				244	243
MSCU8250358	MSCU8250358	MSCU8250358	MSCU8250358	MSCU8250358	1	1	1				249	247
U4**5	***U***4**5				0	0	0	1	1	1	244	242
MAEU6184920	MAEU6184920	MAEU6184920	MAEU6184920	MOFU6184920	1	1	0				253	251
TTNU9835591	TTNU9835591	TTNU9835591	TTNU9835591		1	1	0				257	255
TTNU9815070	TT*U9815***	TTNU9815070	TTNU9815070		1	1	0		1		261	259
CRXU2054088	CRXU2054088	CRXU2054088	CRXU2054088	CRXU2054088	1	1	1				264	263
MSCU1458592	MSCU1458592	MSCU1458592	MSCU1458592	MSCU1458592	1	1	1				265	265
TTNU9471545	TTNU9471545	TTNU9471545	TTNU9471545	TTNU947154%	1	1	1				270	268
NDLU4014563	NDLU401456*	NDLU4014563	NDLU4014563	NDLU4014563	1	1	1		1		279	277
MSCU8073946	MSCU8073946	MSCU8073946	MSCU8073946	MSCU8073946	1	1	1				284	282
PONU1593544	PONU1593544	PONU1593544	PONU1593544	PONU1593544	1	1	1				284	282
POCU1193035	POCU1193035	POCU1193035	POCU1193035	POCU1193035	1	1	1				289	286
OCLU1405671	OCLU1405671	OCLU0567111	OCLU1405671	OCLU0567111	0	1	0				289	286
PONU7601246	PONU7601246	PONU7601246	PONU7601246	PONU7601246	1	1	1				293	291
TGHU7333839	TGHU7333839	TGHU7333839	TGHU7333836	TGHU7333839	1	0	1				293	291
MWCU6592670	MWCU659267*	MWCU6592670	VUCU6592670	UUCU6592671	1	0	0		1		298	296
MWC*6005854	MWCU6005854	???U6?0?854	NIUU660+854	VUCU600+854	0	0	0	1			298	296
MWCU6122974	MWCU6122974	MWCU6122974	UUCU6122974	UUCU6122974	1	0	0				304	301
MWCU6022018	MWCU6022018	MWCU6022018	MZCU6022018	NOUU602+018	1	0	0				304	301
MWCU6527530	MWCU652753*	AAUU6527530	MICU6527530	AAUU6527530	0	0	0		1		309	307
MWCU6062860	MWCU6062860	MWCU6062860	MVCU6062860	FAUU6062860	1	0	0				309	307
***********	CNGU000879*	CMGU0?136??		CMGU0+136%%	0	0	0	1	1	1	315	312
CRLU1101130	CRLU1101130	CRLU1101130	CRLU1011130	CRLU1101130	1	0	1				315	312
MWCU6614125	MWCU6614125	MWCU6614125	UUCU6614125	MICU6614125	1	0	0				320	317
****5182055	MAEU5182055	SIJU5182055	JGWU5182056	UIJU5182055	0	0	0	1			320	317
MAEU5384499	MAEU5384499	MAEU5384499	MAEU5384499	MAEU6390409	1	1	0				325	323
****653*133	MWCU6538133	MWCU6538133	JAIU6531133	UUCU6538133	1	0	0	1			325	323
CRLU5148305	CRLU5148305	CRLU5148305	CRLU5148305	CRLU5148305	1	1	1				330	327
****6025953	MWCU6025953	???U602?953	@TWU602+953	IMCU602+953	0	0	0	1			330	327
MAEU5737364	MAEU5737364	MAEU5737364	MAEU5737364	MAEU5737364	1	1	1				334	332
****5156626	MAEU5156626	MAEU5156626	IAEU5156626	MAEU5156626	1	0	1	1			334	332

Nb of containers	107	Match Code ID	85		
Nb Of Invalid	3	Match Code ID C1	60	Nb Of Invalid C1	13
Nb Of Valid	104	Match Code ID C2	52	Nb Of Invalid C2	19
Perfect match code	37				

	C1	C2	PoM	TOTAL
Accuracy :	63,83%	59,09%	81,73%	79,44%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown, as represented by the Gov. Of Canada — Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-25	15 50 58	885		214	217	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
HLCU2425000	HLCU2425000	HLCU2425000	PLCU242500%	HLCU2425000	1	0	1				29	30
GATU4057364	GATU4057364	GATU4057364	GATU4057364	GATU4057364	1	1	1				33	35
HLXU4322856	HLXU4322856	HLXU4322856	HLXU4322856	HLXU4322856	1	1	1				37	39
HLXU6212457	HLXU6212457	HLXU6212457	HLXU6212457	HLXU62+2457	1	1	1				40	42
HLXU4440479	HLXU4440479	HLXU4440479	HLXU4440479	HLXU4440479	1	1	1				44	45
MSKU2609603	MSKU2609603	MSKU2609603	MSKU2609603	MSKU2609603	1	1	1				48	49
*CLU11**4*1	OCLU119*491				0	0	0	1	1	1	48	50
M*C*2077730	MLCU2*7773*	MLCU2077730	HICU77730%%	MLCU2077730	1	0	1	1	1		49	50
MSKU2282172	MSKU2282172	MSKU2282172	MSKU2282172	MSKU2282172	1	1	1				52	53
TOLU4523059	TOLU4523059	TOLU4523059	TOLU4523059	TOLU4523059	1	1	1				53	54
TTNU9868358	TTNU9868358	TTNU9868358	@@IU9868358	TTNU986%%%%	1	0	0				52	54
GSTU3479839	*STU*479839	GSTU3479839	GSTU34798%%	GSTU347983%	1	0	1		1		58	59
GSTU2320610	***U***0**0	GSTU2320610	GSTU2320610		1	1	0		1		57	58
MSCU8897745	MSCU8897745	MSCU8897745	MSCU8897745	MSCU8897745	1	1	1				57	59
TPHU6873105	TPHU6873105	TPHU6873105	@UZU6873105	TPHU6873105	1	0	1				61	62
FSCU3741346	FSCU3741346	FSCU3741346	FSCU3741346	FSCU3741346	1	1	1				63	63
*STU9392063	***U***2**3	GSTU9392063	GSTU9392063		1	1	0	1	1		66	68
U6**0	GSTU7366**0	IH?U1721417	IH@U1721417		0	0	0	1	1	1	66	68
PONU1332026	PONU1332026	PONU1332026	PONU1332026	PONU1332026	1	1	1				70	72
OCLU1514*29	OCLU1514029	OCLU1514029	OCLU1514129	OCLU1914029	1	0	0	1			70	72
MAEU6276987	MAEU6276987	MAEU6276987	MAEU6276987	MAEU6276987	1	1	1				75	77
POCU1012688	POCU1012688	POCU1012688	POCU1012688	POCU1012688	1	1	1				75	77
MSCU1541198	MSCU1541198	MSCU1541198	MSCU1541198	MSCU1541198	1	1	1				80	81
GATU0531069	GATU0531*69	GATU0531069	GATU0531069		1	1	0		1		79	80
MSCU4302900	MSCU4302900	MSCU4302900	MSCU4302900	MSCU4302900	1	1	1				79	81
*LDU0179160	GLDU0179160	GLDU0179160	GLDU0179160	GLOU0179160	1	1	0	1			85	86
PONU0730637	PONU0730637	PONU0730600	PONU0730607		0	0	0				84	85
POCU0666998	POCU0666998	POCU0666998	POCU0666998	ISCU751898%	1	1	0				88	88
MSCU251898*	MSCU251898*	MSCU25189??	MSCU25189%%		0	0	0	1	1		89	89
MSCU1234102	MSCU1234102	MSCU1234102	MSCU1234102	MSCU1234102	1	1	1				92	93
CRXU2906862	CRXU2906862	CRXU2906862	CRXU2906862		1	1	0				91	92
MSCU251765*	MSCU251765*	MSCU2517658		MSCU251765%	0	0	0	1	1	1	96	96
MSCU1511573	MSCU1511573	MSCU1511573		MSCU1511573	1	0	1				95	95
TTNU269245*	TTNU26924**	TTNU2692457	TTNU269245%	TTNU26927%%	1	1	0	1	1		98	99
MLCU3865399	MLC*3**53**	MLCU3865399	MLCU3865399	MLCU30+53%%	1	1	0		1		99	100
GSTU5123560	***U***3***	GSTU5123560	GSTU5123560		1	1	0		1		102	103
TTNU3665292	TTNU3665292	TTNU3665292	TTNU3665292	TTNU3665292	1	1	1				104	104
MSCU8001041	MSCU8001041	MSCU8001041	MSCU800104%	MSCU8001041	1	1	1				102	104
GSTU9175216	GSTU9175216	GSTU9175216	GSTU9175216		1	1	0				107	109
TRIU9089440	T*IU90*9440	TRIU9089440	TRIU9089440	TWIU9089401	1	1	0		1		107	109
ITLU7504702	ITLU7504702	ITLU7504702	ITLU7504702	ITLU7504702	1	1	1				111	113
NYKU5424931	NYKU5424931	NYKU5424931	NYGU5424931	MYKU5424931	1	0	0				111	113
GSTU6795023	***U***5**3	GSTU6795023	GSTU6795023		1	1	0		1		116	118
PONU7137011	PONU7137011	PONU7137011	PONU7137011	PONU7137011	1	1	1				116	118
UESU2219608	UESU2219608	UESU2219608	UESU2218608	UESU2219608	1	0	1				120	121
MSCU2228275	MSCU2228275	MSCU2228275	MSCU2228275	MSCU2228775	1	1	0				121	122
PONU1582344	PONU1582344	PONU1582344	PONU1582344	PONU1582344	1	1	1				120	122
TPHU6984243	TPHU6984243	TPHU6984243	TPHU6984243	TPHU6984243	1	1	1				125	125
TRIU1923577	TRIU1923577	TRIU1923577	TRIU1923577	IRIU19235%%	1	1	0				126	127
MSCU4008270	[illegible]CU4008270	MSCU4008270	MSCU4008270	MSCU4008270	1	1	1				125	127
U0***	[illegible]80111	GSTU6680111		GSTU6680111	1	0	1	1			128	130
KNLU3395461	KN[illegible]95461	KNLU3395461	KNLU339546%	LNIU3395461	1	1	0				128	129
NYKU2391500	NY[illegible]1500	NYKU2391500	NYKU2391500	NYKU2391500	1	1	1				130	130
TTNU2977362	TTNU[illegible]736*	TTNU2977362	TTNU2977362	TTNU2977367	1	1	0		1		132	133
TRIU1924784	TRIU1924784	TRIU1924784	TRIU1924784	IRIU1924784	1	1	0				133	134
SEAU8111663	SEAU8111663	SEAU8111663	SEAU8111663	SEAU8111663	1	1	1				132	134
PONU0802676	PONU0802676	PONU0802676	PONU0802676	PONU0802676	1	1	1				137	137
SAMU**44980	SAMU2144*80	SAMU2144189	SAMU2+44980	SAMU2144180	0	0	0	1	1		138	138
CLHU20359**	CLHU20359**	CLHU2035918	CLHU203591%	TGHU229792%	0	0	0	1	1	1	141	141
TGHU22979**	TGHU229792*	TGHU2297976	TGHU229797%		0	0	0	1	1	1	142	142
MSCU2947535	MSCU294753*	MSCU2947535	MSCU2947535	TTNU2924629	1	1	0		1		146	146
MSCU2777470	MSCU2777470	MSCU2777470	MSCU2777470		1	1	0				144	145
TTNU2924629	TTNU2924629	SINU2924626	@INU2924626	*KZU2227222	0	0	0				149	150
MSCU2187920	MSCU2187920	MSCU2187920	MSCU2187920	SCMU2026263	1	1	0				150	151
SCMU2026263	SCMU2026263	SCMU2026263	SCMU2026263	TTNU3604189	1	1	0				153	153

PONU0295083	PONU0295083	PONU0295083	TTNU36041%%	PONU0295083	1	0	1				156	157
KNLU3375716	KNLU3375716	KNLU3375716	KNLU3375716	KNLU3375716	1	1	1				157	158
TTNU3604189	TTNU3604189	PONU0295083	PONU0295083		0	0	0				154	154
TTNU5242073	TTNU5242073	TTNU5242073	TTNU5242073	TTNU524%%%%	1	1	0				160	162
ICSU1767577	ICSU1767577	ICSU1767577	ICSU1767577	ICSU1767577	1	1	1				163	165
IN*U5263354	****52*3***				0	0	0	1	1	1	167	168
TRLU4208833	TRLU4208833	TRLU4208833	TRLU4208833	TRLU4208833	1	1	1				170	172
MAEU7082219	MAEU7082219	MAEU7082219	MAEU7082219	MAEU7082219	1	1	1				173	175
MSCU4299299	MSCU4299299	MSCU4299299	MSCU4299299	MSCU4299299	1	1	1				176	178
TPHU4807043	TP**4807043	TPHU4807043	TPHU4807043	TPIU4807043	1	1	0		1		180	181
MSCU4091514	MSCU4091514	MSCU4091514	MSCU4091514	MSCU4091514	1	1	1				183	185
MSCU4163316	MSCU4163316	MSCU4163???		MSCU4163%%%	0	0	0				186	188
CLOU4153307	CLOU4153307	CLOU4153307	CLOU415330%	CLOU4153307	1	1	1				189	191
MSKU6194022	MSKU6194022	MSKU6194022		MSKU6194022	1	0	1				193	195
SCMU2407594	SC*U2407594	SCMU2407594	SCMU2407594	SCMU2407594	1	1	1		1		193	194
SC**24**4*1	***********	SCMU2400481	SCMU2400480		0	0	0	1	1	1	195	195
MAEU7*98254	MAEU7398254	MAEU7398254	PAEU7398254	MAEU7398254	1	0	1	1			198	200
PONU1596100	PONU1596100	PONU1596100	PONU1596100	PONU1596100	1	1	1				198	200
MSKU8194546	MSKU8194546	MSKU8194546	MSKU8194546	MSKU8194546	1	1	1				202	204
ICSU1714788	ICSU1714788	ICSU1714788	ICSU1714788	ICSU1714788	1	1	1				202	204
***********	SEAU8148960	STAU8148960		SIAU8148960	0	0	0	1			206	208
PONU722****	PONU7229735	PONU7229735	PONU722%%%%	PONU7229735	1	0	1	1			206	208
MAEU7856660	MAEU7856660	MAEU7856660		MAEU7856660	1	0	1				209	213
TTNU3528134	TTNU3528134				0	0	0				211	212

Nb of containers	89	Match Code ID	74		
Nb Of Invalid	7	Match Code ID C1	59	Nb Of Invalid C1	18
Nb Of Valid	82	Match Code ID C2	48	Nb Of Invalid C2	23
Perfect match code	36				

	C1	C2	PoM	TOTAL
Accuracy :	83,10%	72,73%	90,24%	83,15%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown as represented by the Gov Of Canada — Date

DTI **Acceptance Tests Form**

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-26	14:57:37	889		552	551	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# image C1	# image C2
HLXU4103159	HLXU4103159	HLXU4103159	HLXU4103159	HLXU4103199	1	1	0				15	13
HLXU4301853	HLXU4301853	HLXU4301853	HLXU4301853	HLXU4301853	1	1	1				19	17
HLCU4273205	HLCU427*20*	HLCU4273205	HLCU4273205	HLCU4275203	1	1	0		1		24	21
INKU277666*	IN*U*776*60	INKU2776660	INKU2776663	INIU2776+60	1	0	0	1	1		28	26
SCZU8741038	SCZU8741038	SCZU8741038	SCZU8741038	SCZU8741038	1	1	1				32	31
TRLU0501313	TRLU0501313	TRLU0501313	TRLU0501313	TRLU0501313	1	1	1				33	33
TPHU5020556	TPHU5020556	TPHU5020556	TPHU5020556		1	1	0				38	36
		TPHU5020556	@@IU54645%%	TPHU5020556	0	0	0	1	1	1		
MSCU4288102	MSCU4288102	MSCU4288102	MSCU4288102	MSCU4288102	1	1	1				43	41
SEAU8733986	SEAU8733986	SEAU8733986		SEAU8733986	1	0	1				47	45
MSCU8043411	MSCU8043411	MSCU8043411	MSCU8043411	MSCU8043410	1	1	0				51	49
KNLU3225233	KNLU322523*	KNLU3225233	KNLU3225233	KNLU322524%	1	1	0		1		54	53
CRXU1350085	CRXU1350085	CRXU1350085	CRXU1350085	CRXU1350085	1	1	1				55	54
SEAU2129*21	SEAU2129921	SEAU2129921	SEAU2129521	SEAU2129921	1	0	1	1			58	57
MSCU*365*78	MSCU2365278	MSCU2365278	MSCU2365778	MSCU2365278	1	0	1	1			61	60
MLC*2965238	MLC*2965238	MLCU2965238	MLCU2965238	*MLU2965238	1	1	0	1	1		63	62
TRLU5021805	TRLU5021805	TRLU5021805	TRLU5021805	TRLU5021805	1	1	1				63	60
KNLU3317772	KNLU3317772	KNLU3317772	KNLU3317772	KNLU3317772	1	1	1				67	66
POCU0579574	POCU0579574	POCU0579574	POCU0579574	POCU0579574	1	1	1				69	68
X*R*4939150	X*RU4939150	XTRU4939150		XTRU4939150	1	0	1	1	1		69	66
TRIU5537084	TRIU5537084	TRIU5537084	TRIU5537084	TRIU5537084	1	1	1				76	74
*TNU9354575	TTNU9354575	TTNU9354575		TTNU9354575	1	0	1	1			73	71
PONU0165773	PONU0165773	PONU0165773	PONU0165773	PONU0165773	1	1	1				78	78
CLHU2090978	CLHU*090978	CLHU2090978	CLHU2090978	CLHU9090978	1	1	0		1		80	79
MAEU4527949	MAEU4527949	MAEU4527949	MAEU4527949	MAEU4527949	1	1	1				84	82
PONU3015360	PONU3015360	PONU3015360	PONU3015360	PONU3015360	1	1	1				87	85
TPHU8252072	TPHU8252072	TPMU8252074	TPMU8252072	TPMU8252072	0	0	0				99	98
UXXU2437934	UXXU2437*34	UXXU2437934	UXXU2437930	UXXU2437634	1	0	0		1		100	99
GLDU0725739	GLDU0725739	GLDU0725739	GLDU0725739	GLDU0725739	1	1	1				100	98
CLHU2082925	CLHU2082925	CLHU2082925	CLHU2082925	CLHU2082925	1	1	1				103	102
GSTU3162470	GSTU3162470	GSTU3162470	GSTU3162470	GSTU3162470	1	1	1				104	104
TTNU4806498	TTNU4806498	TTNU4806498	TTNU4806498	TTNU480649%	1	1	1				104	102
TPHU6497950	TPHU6497950	TPHU6497950	TPHU6497950	TPHU6497950	1	1	1				107	106
MSCU2455643	MSCU2455643	MSCU2455643	MSCU2455643	MSCU2455643	1	1	1				108	108
PONU7259745	PONU7259745	PONU7259745	PONU7259745	PONU7259745	1	1	1				108	106
MSKU2547728	MSKU2547728	MSKU2547728	MSKU2547728	MSKU2547728	1	1	1				111	110
GLDU0390928	GLDU0390928	GLDU0390928	GLDU0390928	GLOU0390928	1	1	0				112	112
POCU0115022	POCU01150*2	POCU0115022	POCU0115022	POCU0115022	1	1	1		1		115	114
APMU2751903	APMU2751903	APMU2751903	APMU2751903	APMU2751903	1	1	1				116	116
TRIU9054438	TRIU9054438	TRIU9054438	TRIU9054438	TRIU9054438	1	1	1				122	119
HLXU4375563	HLXU4375563	HLXU4375563	HLXU4375563	HLXU4375563	1	1	1				122	119
POCU0625129	POCU0625129	POCU0625129	POCU0625129	POCU0625129	1	1	1				127	126
APMU8070872	APMU8070872	APMU8070872	APMU8070872	APMU8070872	1	1	1				132	130
GATU4062946	GATU4062946	GATU4062946	GATU4062946	GATU4062946	1	1	1				132	130
HLXU6024167	HLXU6024167	HLXU6024167	HLXU6024167	HLXU6024167	1	1	1				137	134
PONU7686222	PONU7686222	PONU7686222	PONU7686222	PONU7686222	1	1	1				142	140
GSTU6565484	GSTU***54*4	GSTU6565680	GSTU6565686	@STU656548%	0	0	0		1		147	145
PONU7345150	PONU7345150	PONU7345150	PONU7345150	PONU7345150	1	1	1				152	150
CLHU8020710	CLHU8020710	CLHU8020710	CLHU8020710	CLHU8020710	1	1	1				156	154
TTNU9855540	TTNU9855540	TTNU9855540	TTNU9855540		1	1	0				164	162
GATU4260134	GATU4260134	GATU4260134	GATU4260134	GATU4260134	1	1	1				164	162
SEAU7891035	SEAU7891035	SEAU7891035	SEAU7891035	SEAU7891039	1	1	0				169	167
MLCU4916720	MLCU4916720	MLCU4916720	MLCU4916720	MLCU4916720	1	1	1				169	167
HLCU4274541	HLCU4274541	HLCU4274541	HLCU4274541	HLCU4274541	1	1	1				174	172
MAEU8364412	MAEU8364412	MAEU8364412	MAEU8364412	MAEU8364412	1	1	1				174	172
HLXU4591177	HLXU4591177	HLXU4591177	HLXU4591177	HLXU4591177	1	1	1				179	177
HLXU6143850	HLXU6143850	HLXU6143850	HLXU6143850	HLXU6143850	1	1	1				184	182
*LXU4585472	HLXU4585472	HLXU4585472	ILXU4585472	HLXU4585472	1	0	1	1			184	182
HLXU4465517	HLXU4465517	HLXU4465517	HLXU4465517	HLXU4465517	1	1	1				189	187
HLXU602812*	HLXU6028120	HLXU6028120	HLXU6028120	HLXU602820%	1	1	0	1			189	187
HLXU4368100	HLXU4368100	HLXU4368100	HLXU4368100	HLXU4368101	1	1	0				195	192
TRIU9079360	TRIU9079360	TRIU9079360	TRIU9079366	@RIU9079360	1	0	0				195	192
HLXU6041420	HLXU604142*	HLXU6041420	HLXU6041420	HLXU6041424	1	1	0		1		199	197
HLXU4139613	HLXU4139613	HLXU4139613	HLXU4139613	HLXU4139613	1	1	1				203	201
HLXU4321886	HLXU4321886	HLXU4321886	HLXU4321881	HLXU4321886	1	0	1				207	204

HLXU4456201	HLXU4456201	HLXU4456201	HLXU4456200	HLXU4456201	1	0	1				210	208
HLXU5177192	HLXU5177192	HLXU5177192	HLXU5177192	HLXU5177192	1	1	1				214	212
HLXU4322007	HLXU4322007	HLXU4322007	HLXU4322007	HLXU4322007	1	1	1				219	217
HLXU5164929	HLXU5164929	HLXU5164929	HLXU5164929	HLXU5164929	1	1	1				219	217
[illegible]	HLCU4572000	HLCU4572000	HOLU572090%	HLCU4572000	1	0	1				224	222
HLXU4146783	HLXU4*46783	HLXU4146783	HLXU4146783	HLXU4146783	1	1	1		1		224	222
MSCU4168690	MSCU4168690	MSCU4168690	MSCU4168690		1	1	0				229	227
HLXU6204615	HLXU6204615	HLXU6204615	HLXU6204615	HLXU6204615	1	1	1				229	227
MSCU2121604	MSCU2121604	MSCU2121604	MSCU2121604	MSCU2121601	1	1	0				232	232
HLXU221111?	HLXU2211154	HLXU2211154	HLXU221115%	HLXU2261154	1	1	0	1			234	233
INBU5103490	INBU5103*90	INBU5103490	INBU5103490	INBU5103090	1	1	0		1		234	232
MSCU1911163	MSCU1911163	MSCU1911163	MSCU1811180	MSCU1911163	1	0	1				237	237
MSCU2258900	MSCU2258900	MSCU2258900	MSCU2258900	MSCU2258900	1	1	1				239	238
SEAU8078930	SEAU8078930	SEAU8078930	SEAU8078931	SEAU8078936	1	0	0				239	237
MAEU2453512	MAEU2453512	MAEU2453512	MAEU2453512	MAEU2453512	1	1	1				244	242
[illegible]	GSTU9832320	GSTU9832307		GSTU983232%	0	0	0	1	1	1	244	242
TRIU9844833	TRIU9844833	TRIU9844833	TRIU9844833	TRIU9844837	1	1	1				248	246
MAEU7261343	MAEU72613*3	MAEU7261343	MAEU7261343	JUJU7261343	1	1	0		1		248	246
SEAU8230261	SEAU8230261	SEAU8230261	SEAU8230261	SEAU8230261	1	1	1				251	249
[illegible]	GSTU7366867	GSTU7366867		GSTU7366867	1	0	1	1	1		251	249
LCRU4503006	""U4503006	LCRU4503006	LCRU4503006		1	1	0		1		255	253
MSKU8216157	MSKU8216157	MSKU8216157	MSKU8216157	MSKU821615%	1	1	1				255	253
TOKU9178075	TOKU9178075	TOKU9178075	TOKU9178075	TOKU9178075	1	1	1				259	257
PONU7313553	PONU7313553	PONU7313553	PONU7313553	PONU7313553	1	1	1				259	257
TOKU9706771	TOKU9706771	TOKU9706771	TOKU9706771	TOKU9706771	1	1	1				264	262
[illegible]	[illegible]				0	0	0	1	1	1	264	262
TOKU9627588	TOKU9627588	TOKU9627588	TOKU9627588	TOKU9627588	1	1	1				267	265
POCU7008879	POCU7008879	POCU7008720	POCU7008739	POCU7008739	0	0	0	1	1	1	267	265
INBU5119653	INBU5119653	INBU5119653	INBU5119653	INOU5119653	1	1	0				271	269
SEAU7863780	SEAU7863780	SEAU7863780	SEAU7863780	SEAU7863780	1	1	1				271	269
PONU7601971	PONU7601971	PONU7601971	PONU7601971	PONU7601971	1	1	1				274	272
SCZU1243011	SCZU1243011	SCZU1243011	SCZU1243011	SCZU1243011	1	1	0				274	272
CAXU9995041	CAXU999504*	CAXU9995041	CAXU9995041	CAXU9995041	1	1	1		1		278	275
PONU7535381	PONU7535381	PONU7535381	PONU7535381	PONU7535381	1	1	1				278	275
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	1	0				280	279
[illegible]	GSTU3341850	GSTU3341850	[illegible]	GSTU3341850	0	0	0	1			281	281
CLHU4049443	CLHU4049443	CLHU4049443	CLHU4049443	CLHU4049443	1	1	1				285	283
TOLU1616055	TOLU161605*	TOLU1616055	TOLU1616055	TOHU161605%	1	1	0		1		289	286
MAEU8129648	MAEU8129648	MAEU8129648	AAEU8129648	MAEU812964%	1	0	1				292	290
INBU3631821	INBU3631821	INBU3631821	INBU3631821	INBU363182%	1	1	1				295	294
GLDU2140773	GLDU2140773	GLDU2140773	GLDU2140773	GLDU2140773	0	0	0				298	295
TOLU2489350	TOLU2489350	TOLU2489350	TOLU2489350	TOLU2489350	1	1	1				299	298
POCU3329408	POCU3329408	POCU3329408	POCU3329408	POCU3329408	1	1	1				300	300
MAEU8368217	MAEU8368217	MAEU8368217	MAEU8368217	MAEU8368217	1	1	1				300	298
TTNU3652591	TTNU3652591	TTNU3652591	TTNU3652591	TTNU3652591	1	1	1				305	303
TGHU7525520	TGHU7525520	TGHU7525520	TGHU7525520	TGHU7525520	1	1	1				305	303
MSKU8305458	MSKU8305458	MSKU8305458	MSKU8305458	MSKU8305458	1	1	1				309	307
TRLU5180822	TRLU5180822	TRLU5180822	TRLU5180822	TRLU5180822	1	1	1				309	307
TRIU4328156	TRIU4328156	TRIU4328177	TRIU432815%	TRHU4328156	0	0	0				313	311
MSKU8185837	MSKU8185837	MSKU8185837	MSKU8185837	MSKU8185837	1	1	1				313	311
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0	0	1	1	1	316	315
MSCU2522911	MSCU2522911	MSCU2522911	MSCU252291%	MSCU2522911	1	1	1				317	316
KNLU5052640	KNLU505264*	KNLU5052640	KNLU5052640	KNLU5060640	1	1	0		1		317	315
GESU4512452	GESU4512452	GESU4512452	GESU4512452	GESU4512452	1	1	1				323	322
[illegible]	CAXU4239316	CAXU4239316		CAXU4239316	1	0	1	1			323	322
CAXU4893624	CAXU4893624	CAXU4893624	CAXU4893624	CAXU4893624	1	1	1	1			327	325
SEAU5849857	SEAU5849858	SEAU5849857	SEAU5849857	SEAU5849857	1	0	1				327	325
MAEU8389720	MAEU8389720	MAEU8389720	MAEU8389720	MAEU8389720	1	1	0		1		331	329
TTNU3813490	TTNU3813490	TTNU3813490	TTNU3813490	TTNU3813490	1	1	1				331	329
TTNU3380150	TTNU3380150	TTNU3380150	TTNU338015%	TTNU3380150	1	0	1				335	333
TRIU5372292	TRIU5372292	TRIU5372292	TRIU5372292	TRIU5372292	1	1	1				335	333
CRXU1854257	CRXU1854257	CRXU1854257	CAXU294138%	CRXU1854257	1	0	1				337	337
CAXU2941385	CAXU2941385	CAXU2941385		CAXU2941385	1	0	1				339	338
SEAU8188572	SEAU8188572	SEAU8188572	SEAU8188572	SEAU8188572	1	1	1				339	337
SEAU2202117	SEAU220211*	SEAU2202117	SEAU2202117	SEAU220211%	1	0	1		1		342	342
MSCU1804811	MSCU1804811	MSCU1804811	MSCU1804811	MSCU1804811	1	1	1				344	342
PONU7538755	PONU7538755	PONU7538755	PONU7538755	PONU7538755	1	1	1				344	342
MSKU2113247	MSKU2113247	MSKU2113247	MSKU2113247	MSKU2113247	1	0	1				347	347
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	1	1		1		349	348
TPHU4763026	TPHU4763026	TPHU4763026	TPHU4763026	TPHU4763026	1	1	1				349	347

MSKU2036878	MSKU2036878	MSKU2036878	MSKU2036878	MSKU2036878	1	1	1				353	352
TRLU2044427	TRLU2044427	TRLU2044427	TRLU2044427	TRLU2044427	1	1	1				354	353
T*XU5409562	TEXU5409562	TEXU5409562	T+XU5409562	IEXU5409562	1	0	0	1			354	352
IPXU3068220	IPXU3068220	IPXU3068220	IPXU3068220		1	1	0				360	359
PONU0338230	PONU0338230	PONU0338230	PONU0338230	PONU0338230	1	1	1				358	357
TRIU5772437	TRIU5772437	TRIU5772437		TRIU5772437	1	0	1				360	357
***********	MSCU1867060				0	0	0	1			363	363
MSCU1559448	***********	MSCU1067068		MSCU1067060	0	0	0		1		364	364
MAEU8105730	MAEU8105730	MAEU8105730		MAEU8105730	1	0	1				364	363
***********	MSKU2125255				0	0	0	1			368	367
**KU6220399	NYKU6220399				0	0	0	1			368	367
TRLU2881568	TRLU2881568	TRLU2881568	TRLU2881568	TRLU2881568	1	1	1				371	370
NYKU2476438	NYKU2476438	NYKU2476438	NYAU2476438	NYKU2476438	1	0	1				372	371
IEAU4*037*6	IEAU4603726	IEAU4603726	IEAU4603726	IEAU4603726	1	1	1	1			372	370
TRLU2888069	TRLU2888069	TRLU2888069	TRLU2888069	TRLU2888069	1	1	1				376	375
MSKU2478503	MSKU2478503	MSKU2478503	MSIU2478503	MSKU2478503	1	0	1				377	376
MSKU6098815	MSKU6098815	MSKU6098815	MSKU6098815	MSKU6098815	1	1	1				377	375
SEAU2324635	SEAU2324635	SEAU2324635	SEAU2315850	SEAU2324635	1	0	1				381	380
C**U23**20*	CMBU2*30209	CMBU2?30206		CMBU2+30206	0	0	0	1	1		380	379
SEAU2315850	SEAU2315850	SEAU2315850		SEAU2315850	1	0	1				383	382
PONU0351607	PONU0351607	PONU0351607	PONU0351607	PONU0351607	1	1	1				388	387
MSCU2452053	MSCU2452053	MSCU2452053		MSCU2452053	1	0	1				387	386
SEAU8620399	SEAU8620399	SEAU8620399	SEAU8620399	SEAU8620399	1	1	1				388	386
TORU9100827	TORU9100827	TORU9100827	TORU9100827	TORU9100827	1	1	1				391	391
MSCU2669199	MSCU2669199	MSCU2669199	MSCU2669199	MSCU2669199	1	1	1				393	392
PONU7526760	PONU7526760	PONU7526760	PONU7526760	PONU7526760	1	1	1				393	391
GATU0515284	GATU0515284	GATU0515284	GATU0515284	GATU0515284	1	1	1				396	396
TEXU*824604	TEXU3824604	TEXU3824604	TEXU3824604	TEXU3824604	1	1	1	1			397	397
IC*U1*50300	ICSU1750300	ICSU1750300	@ICU1750300	ICSU7503110	1	0	0	1			397	396
MSCU1875913	MSCU1875913	MSCU1875913	MSCU1875913	MSCU1875913	1	1	1				401	400
MSCU2929850	MSCU2929850	MSCU2929850	MSCU2929850	@SCU2929850	1	1	1				403	402
MAEU8376460	MAEU8376460	MAEU8376460	MAEU8376460	MAEU8376460	1	1	1				407	405
GLDU0564763	GLDU0564763	GLDU0564763	GLDU0564763	GLOU0564763	1	1	0				411	409
MAEU5804919	MAEU5804919	MAEU5804919	MAEU5804919	MAEU5804939	1	1	0				415	413
CRXU2768655	CRXU2768655	CRXU2768655	CRXU2768655	CRXU2768655	1	1	1				418	418
MSCU103496*	MS*U103496*	MSCU1034969	MSCU1034966	*UIU34961%%	1	0	0	1	1		420	419
TOLU1517690	TOLU1517690	TOLU1517690	TOLU1517690	TOLU1517690	1	1	1				424	421
MAEU7297475	MAEU7297475	MAEU7297475	MAEU7297475	MAEU7297475	1	1	1				427	425
TPHU5244730	TPHU5244730	TPHU5244730	TPHU5244730	TPHU5244730	1	1	1				430	428
TCKU9597855	TCKU9597855	TCKU9597855	TCKU9597855	TCKU9597855	1	1	1				434	432
MSKU8042693	MSKU*042693	MSKU8042693	MSKU8042693	ISKU042693%	1	1	0		1		438	435
KNLU4336041	KNLU4336041	KNLU4336041	KNLU4336047	KNLU4336041	1	0	1				442	440
PONU7246305	PONU7246305	PONU7246305	PONU7246305	PONU7246305	1	1	1				442	440
MSCU8038755	MSCU8038755	MSCU8038755	MSCU8038755	MSCU8038755	1	1	1				446	445
MAEU72919*5	MAEU7291965	MAEU7291965	MAEU7291905	MAEU7291965	1	0	1	1			448	445
CAXU9941500	CAXU9941500	CAXU9941500	CAXU9941500	@@XU9941500	1	1	0				453	451
CRXU4561116	CRXU4561116	CRXU4561116	CRXU4561116	CRXU4561116	1	1	1				453	451
GSTU5702005	GSTU5702005	GSTU5702005	GSTU5702005	GSTU5702005	1	1	1				457	456
PONU0783278	PONU0783278	PONU0783278	PONU0783278	PONU0783278	1	1	1				459	458
****42****9	CAXU4288239	CAXU4288239		CAXU4288239	1	0	1	1			459	456
CRXU296038*	CRXU296038*	CRXU2960380	CRXU296038%	CRXU2960388	1	1	0	1	1		463	462
MSKU2261971	MSKU2261971	MSKU2261971	MSKU2261971	MSKU2261971	1	1	1				464	463
ICSU1755299	ICSU1755299	ICSU1755299	ICSU1755299	ICSU755298%	1	1	0				464	462
MSCU29*54*9	MSCU2905479	MSCU2905479	MSCU2905479	MSCU2905479	1	1	1	1			468	467
MSCU1553970	MSCU1553970	MSCU1553970	MSCU1553970	MSCU1553970	1	1	1				469	469
TRIU4675197	TRIU4675197	TRIU4675197	TRIU4675197	TRIU4675197	1	1	1				469	467
TOLU3835392	TOLU3835392	TOLU3835392	TOLU3835392	TOLU3835392	1	1	1				475	472
MSCU4217881	MSCU4217881	MSCU4217881	MSCU4217881	MSCU421+881	1	1	1				475	472
MSCU8203660	MSCU8203660	MSCU8203660	MSCU8203660	MSCU8203660	1	1	1				479 *	477
MSCU4244336	MSCU4244336	MSCU4244336	MSCU4244336	MSCU424433%	1	1	1				479	477
CRXU9438104	CRXU9438104	CRXU9438104	CRXU9438104	CRXU9138104	1	1	0				483	481
GATU8307055	GATU8307055	GATU8307055	GATU8307055	GATU8307055	1	1	1				483	481
INKU2892818	INKU2892818	INKU2892818	INKU2892818	INKU2892818	1	1	1				487	485
XTR*4044832	XTRU4044832	XTRU4044832	XTRU4044832	XTRU4044832	1	1	1	1			487	485
ICSU1305054	ICSU1305054	ICSU1305054	ICSU1305054	ICSU1305054	1	1	1				491	489
TTNU9596115	TTNU9596115	TTNU9596115	TTNU9596115	TTNU9546115	1	1	0				491	489
APMU27635*7	APMU2763567	PPMU2763561	APMU2763071	PPMU2763567	0	0	0	1			494	493
GLDU2007772	GLDU2007772	GLDU2007776	GLDU2007772	GLDU2007772	0	0	0				499	498
TTNU9092496	TTNU9092496	TTNU9092496	TTNU9092496	TTNU90924%%	1	1	0				503	501
SEAU4826139	SEAU4826139	SEAU4826139	SEAU4826139	SEAU4826139	1	1	1				507	505

SAMU4008216	SAMU4*082*6	SAMU4608268	SAMU4008216	SAMU460826%	0	1	0		1		511	509
CLHU413847*	CLHU413847*	CLHU4138474	CLHU413847%	CLHU413847%	1	1	1	1	1	1	516	514
CAXU4601071	CAXU4601071	CAXU4601071	CAXU4601071	CAXU4601070	1	1	0				516	514
TEXU729106*	TEXU729106*	TEXU7291062	TEXU729106%	TEXU729106%	1	1	1	1	1		521	518
INBU5102344	IN*U5102*44	INBU5102344	INBU5102344	INBU5112341	1	1	0		1		521	518
***********	CAXU9931097				0	0	0	1			525	522
***********	MSCU8846481	MSCU8846481		MSCU8846481	1	0	1	1			525	522
CLHU8104620	CLHU8104620	CLHU8104620	CLHU8104620	CLHU8104620	1	1	1				529	527
PONU7499448	PONU7499448	PONU7499448	PONU7499448	POMU7499448	1	1	0				529	527
TTNU9494197	TTNU9494197	TTNU9494197	TTNU9494197	TTNU9494197	1	1	1				533	531
APMU8056*90	APMU8056690	APMU8056690	APMU8056691	APMU8056690	1	0	1	1			533	531
TTNU57037**	TTNU57037**	TTNU570377?	TTNU57037%%	TTNU57037%%	0	0	0	1	1	1	543	541
SEAU8105573	SEAU8105573	SEAU8105573	SEAU8105573	SEAU8105573	1	1	1				543	541
MSCU8780342	MSCU8780342	MSCU8780342	MSCU8780342	MSCU8780342	1	1	1				548	545
TTNU5532909	TTNU5532909	TTNU5532909	TTNU5532909	@TNU5532909	1	1	0				548	545

Nb of containers	219	Match Code ID	200		
Nb Of Invalid	6	Match Code ID C1	163	Nb Of Invalid C1	38
Nb Of Valid	213	Match Code ID C2	154	Nb Of Invalid C2	35
Perfect match code	124				

	C1	C2	PoM	TOTAL
Accuracy :	90,06%	83,70%	93,90%	91,32%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown, as represented by the Gov. Of Canada — Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-26	17 03 30	890		481	481	Timestamp

Visual inspection C1	Visual inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
POCU0226999	POCU0*26999	POCU0226999	POCU0226999	POCU0226999	1	1	1		1		12	13
MAEU6045186	MAEU6045186	MAEU6045186	MAEU6045186	MAEU6045186	1	1	1				16	18
TRIU4675962	TRIU4675962	TRIU4675962	TRIU4675962	TRIU4675962	1	1	1				16	18
CAXU*108450	CAXU4108450	CAXU4108450	CAXU1108450	CAXU4108450	1	0	1	1			20	22
INKU2861313	INKU2861313	INKU2861313	INKU2861313	INKU2861313	1	1	1				20	22
TGHU8012664	TGHU8012664	TGHU8012664	TGHU8012664	TGHU8012664	1	1	1				25	27
TTNU9354683	TTNU9354683	TTNU9354683	ITNU9354683	TTNU9354680	1	0	0				25	27
TGHU8071707	TGHU8071707	TGHU8071707		TGHU8071707	1	0	1				30	32
MAEU8355220	MAEU8355220	MAEU8355220	IAEU8355221	MAEU8355220	1	0	1				30	32
TRIU9820889	TRIU9820889	TRIU9820889	TRIU9820889	TRIU9820889	1	1	1				35	37
S*A*8*7*7*0	SEAU8576790	OIOU6161097	OIOU6161090	SEAU8576790	0	0	1	1			35	37
HLXU6036722	HLXU6036722	HLXU6036722	HLXU6036722	HLXU6036722	1	1	1				40	42
TTNU9806551	TTNU9806551	TTNU9806551	TTNU9806551	@TNU980655%	1	1	0				40	42
TOLU4598103	TOLU4598103				0	0	0				43	44
HLXU2109733	HLXU2109733	HLXU2133730	HLXU2133730	HLXU2103730	0	0	0				47	48
HLXU6107066	HLXU6107066	HLXU6107066	HLXU6107066	HLXU6107066	1	1	1				50	52
TTNU9056689	TTNU9056689	TTNU9056689	TTNU905668%	TTNU9056689	1	1	1				50	52
T*XU5411240	TEXU5411240	TEXU5411240	T+XU5411240	TEXU5411240	1	1	1	1			55	56
GLDU0522069	GLDU0522069	GLDU0522069	GLDU0522069	GLDU0522069	1	1	1				55	56
TGHU8040769	TGHU8040769	TGHU8040769	TGHU8040769	TGHU8040769	1	1	1				59	61
TGHU7317186	TGHU7317186	TGHU7317186	TGHU7317186	TGHU7317180	1	1	0				59	61
CAXU9694734	CAXU9694734	CAXU9694734	CAXU9691734	CAXU9694734	1	0	1				33	65
SEAU8419907 -	SEAU8419907	SEAU8419907	SEAU8419907	SEAU8429907	1	1	0				63	65
****8303438	MAEU8303438	MAEU8303485		MAEU8303488	0	0	0	1			68	70
TEXU5171540	TEXU5171540	TEXU5171540	TEXU5171540	TEXU5171540	1	1	1				68	70
APMU8013466	APMU8013466	APMU8013466	APMU8013166	APMU8013466	1	0	1				73	75
TTNU9653473	TTNU9653473	TTNU9653410	TTNU9653470	TTNU9653400	0	0	0				73	75
GSTU7854497	GSTU7854497	GSTU7854497	GSTU7854497	GSTU7854497	1	1	1				76	78
***********	HLXU6032630	HLXU6032630	TLRU6032837	HLXU6032630	1	0	1	1			76	78
GATU8365093	GATU8365093	GATU8365093	GATU8365690	GATU8365093	1	0	1				80	82
PONU7449278	PONU7449278	PONU7449278	PONU7449278	PONU7449278	1	1	1				80	82
MAEU82755*4	MAEU8275594	MAEU8275594	MAEU8275014	MAEU8275994	1	0	0	1			84	86
MSKU8054360	MSKU8054360	MSKU8054360	ASKU8054360	MSKU8054360	1	0	1				84	86
SEAU8639136	SEAU8639136	SEAU8639136	SEAU8639136	SEAU8639136	1	1	1				88	90
TTNU9419892	TTNU9419892	TTNU9419892	TTNU9419892		1	1	0				88	90
HLXU2230283	HLXU2230283	HLXU2230283	HLXU2230283	HLCU2230280	1	1	0				92	92
HLXU2609744	HLXU2609***	HLXU2609744	HLXU2609744	HLXU2609742	1	1	0		1		96	96
CAXU4600861	CAXU4600861	CAXU4600861	CAXU4602860	CAXU4600861	1	0	1				98	100
*SKU*189067	MSKU8189067	MSKU8189067	VSKU8189067	MSKU8189067	1	0	1	1			98	100
*NLU4295791	KNLU4295791	KNLU4295791	@NLU4295791	XNLU4295791	1	0	0	1			102	104
TRLU4303580	TRLU4303580	TRLU4303580	TRLU4303580	TRLU4303580	1	1	1				102	104
TRLU5510529	TRLU5510529	TRLU5510529	TRLU5510529	TRLU5510529	1	1	1				106	108
NYKU5443377	NYKU544337*	NYKU5443377	NYGU5445377	NYKU5443372	1	0	0		1		106	108
TTNU570338*	TTNU570338*	TTNU5703386	TTNU5703384	TTNU5703%%%	1	0	0	1	1		110	112
TCKU9373109	TCKU9373109	TCKU9373109	TCKU937310%	TCKU9373109	1	1	1				110	112
SEAU7882877	SEAU7882877	SEAU7882877	SEAU7882877	SEAU7882870	1	1	0				114	116
CAXU4660900	CAXU4660900	CAXU4660900	CAXU4660900	CAXU4660900	1	1	1				114	116
TRLU6382464	TRLU6382464	TRLU6382464	TRLU6382464	TRLU6382464	1	1	1				118	120
SEAU8572069	SEAU8572069	SEAU8572069	SEAU8572069	SEAU8572061	1	1	0				118	120
CAXU4893688	CAXU4*936**	CAXU4893688	CAXU4893688	CAXU093688%	1	1	0		1		123	125
MAEU721819*	MAEU7218199	MAEU7218199	@AEU7218%%%	MAEU7218199	1	0	1	1			123	125
PONU1350502	PONU1350502	PONU1350502	PONU1350502	PONU1350502	1	1	1				128	130
INKU2330169	INKU2330169	INKU2330169	INKU2330169	INKU2330169	1	1	1				128	130
TRLU5889310	TRLU5889310	TRLU5889310		TRLU5889310	1	0	1				133	135
PONU1273221	PONU1273221	PONU1273221	PONU1273221	PONU1273221	1	1	1				133	135
IC*U1674540	ICSU1674540	ICSU1674540	ICSU1674540	ICSU1674540	1	1	1	1			138	140
PONU3012593	PONU3*12593	PONU3012593	PONU3012593	PONU3012593	1	1	1		1		138	140
TTNU90L1583	TTNU9001583	TTNU9001583	TTNU9001583	TTNU9001583	1	1	1				142	144
APMU4543489	A*MU4543489	APMU4543489	APMU4543489	AMMU4643489	1	1	0		1		142	144
PONU7560384	PONU7560384	PONU7560384	PONU7560384	PONU7560384	1	1	1				147	149
GLDU0493295	*LDU0493295	GLDU0493295	PLDU0493295	ULDU0493295	1	0	0		1		147	149
GSTU9313547	GSTU9313547	GSTU9313547	GSIU9313547	GSTU9313547	1	0	1				151	153
MAEU6177562	MAEU6177562	MAEU6177562	MAEU6177562	MAEU6177562	1	1	1				151	153
PONU7670273	PONU7670273	PONU7670273	PONU7670273	PONU7670273	1	1	1				156	158
TRIU1913250	TRIU1913250	TRIU1913250	TRIU1913250	TRIU1913250	1	1	1				161	162

TGHU257916*	TGHU257916*	TGHU2579162	TGHU257916%	TGHU257016%	1	1	0	1.	1		162	163
TTNU32875**	TTNU32875**	TTNU32875??	TTNU32875%%	TTNU32875%%	0	0	0	1	1	1	165	166
MAEU7749699	MAEU7749699	MAEU7749699	MAEU7749699	MAEU7749699	1	1	1				166	167
INBU305177*	IN*U305177*	INBU3051778	INBU3051778	INCU3051778	1	1	0	1	1		169	170
MSCU1531733	MSCU1531733	MSCU1531733	MSCU1531733	MSCU1531733	1	1	1				170	171
MSKU2182595	MSKU2182595	MSKU2182595	MSKU2187595	MSKU2182595	1	0	1				174	175
MSKU2365868	MSKU2365868	MSKU2365868	MSKU2365868	MSKU2365868	1	1	1				175	176
PONU7640469	PONU7640469	PONU7640469	PONU7640469	PONU7640469	1	1	1				174	176
GATU0765977	GATU0765977	GATU0765977	GATU0765977	GATU0765977	1	1	1				178	179
GSTU2306870	GSTU2306870	GSTU2306870	GSTU2306870	GSTU2306870	1	1	1				179	180
MSKU6099128	MSKU6099128	MSKU6099128	MSKU6099128	MSKU6099128	1	1	1				178	180
PONU0818902	PONU0818902	PONU0818902	PONU0818902	PONU0818902	1	1	1				182	183
POCU0165173	POCU0165173	POCU0165173	POCU0165173	POCU0165173	1	1	1				183	184
TEX*4*95234	T*X*419*234	TEXU4195234	TEXU4195234	TEXU4195234	1	1	1	1	1		182	184
MSKU2580109	MSKU2580109	MSKU2580109	MSKU2580109	MSKU2580109	1	1	1				187	188
SAMU2148440	SAMU2148440	SAMU2148440	SAMU2148440	SAMU7148440	1	1	0				186	189
MSKU6136392	MSKU6136392	MSKU6136392	MSKU6136392	MSKU6136392	1	1	1				187	189
PONU0935241	PONU0935241	PONU0935241	PONU0935241	CLHU275418%	1	1	0				191	191
CLHU275418*	CLHU275418*	PONU0935241	CLHU275418%	PONU0935241	0	0	0	1	1	1	192	193
POCU0***7*1	POC*0388731	POCU0388731	POLU0508731	POCU0388731	1	0	1	1	1		194	195
WFHU1180328	WFHU1180328	WFHU1180328	WFHU1180328	WFHU1180328	1	1	1				196	197
MSKU2388652	MSKU238*652	MSKU2388652	MSKU2388652	MSKU2388652	1	1	1		1		198	199
MSKU2418382	MSKU2418382	MSKU2418382	MSKU2418382	MSKU2418382	1	1	1				200	200
PONU1281865	PONU1281865	PONU1281865	PONU1281865	PONU1281865	1	1	1				202	204
TTNU3776***	TTNU3776***	TT?U377????	TTMU377%%%%	TTNU3779%%%	0	0	0	1	1	1	207	208
GATU1180950	GATU1180950	GATU1180950	GATU1180950	GATU1180950	1	1	1				208	209
PONU0282039	PONU0282039	PONU0282039	PONU0282039	PONU0282039	1	1	1				212	213
*OCU**287*7	POCU002*777	POCU0028777	POCU3928777	POCU0029770	1	0	0	1	1		213	214
TTNU24476**	TTNU24476**	TTNU2447???	TTNU2447%%%	TTNU24476%%	0	0	0	1	1	1	217	218
POCU0330935	POCU0330935	POCU0330935	POCU0330935	POCU0330935	1	1	1				218	219
POCU1173743	POCU1173743	POCU1173743	POCU1173743	POCU1173743	1	1	1				221	223
*N*U*9*3*4*	*NBU4923345	INBU1923341	INOU19+3346	INBU4923341	0	0	0	1	1	1	224	226
INBU4940804	INBU4940804	INBU4940804	INBU4940804	INBU4940804	1	1	1				228	230
PONU1566370	PONU1566370	PONU1566370	PONU1566370	PONU1566370	1	1	1				231	233
KNLU327285*	KNLU3272852	KNLU3272852	KNLU3272850	KNLU3272852	1	0	1	1			236	236
MSCU2989551	MSCU2989551	MSCU2989551	MSCU2989551	MSCU2989551	1	1	1				238	238
TRLU9*2862*	TRLU9228621	TRLU9228621	TRLU9+28621	IRLU9228621	1	0	0	1			240	241
TGHU239025*	TGHU239025*	TGHU2390250	TGHU239025%	TGHU239025%	1	1	1	1	1		243	244
MAEU6715863	MAEU6715863	MAEU6715863	MAEU671+586	MAEU6715863	1	0	1				245	245
POCU0555401	POCU0555401	POCU0555401	POCU0555401	POCU0555401	1	1	1				247	248
GSTU*911350	*STU5**1350	GSTU5911350	GSTU5911350	OSTU911350%	1	1	0	1	1		248	249
MSKU8325224	MSKU8325224	MSKU8325224	MSKU8325224	MSKU8325224	1	1	1				247	249
PONU0328654	PONU0328654	PONU0328654	PONU0328654	PONU0328654	1	1	1				251	251
TTNU2583693	TTNU258369*	TTNU2583693	TTNU258369%	TTNU258369%	1	1	1		1		252	252
TRIU9328267	TRIU9328267	TRIU9328267	TRIU9328267	TR+U9328267	1	1	1				251	252
POCU01554*1	POCU01554*1	POCU0155431	POCU0155431	POCU0155431	1	1	1	1	1		254	255
GATU0985333	GATU0985333	GATU0985333	GATU0985333	GATU0985333	1	1	1				256	256
B*81513	INBU318*513	INBU3181513	CTPU81513%%	INBU3181513	1	0	1	1	1		258	258
MSCU1143867	MSCU1143867	SRIU1515213	SZIU1515213		0	0	0				259	260
APMU8050222	*PMU8050222	APMU8050222	APMU8050222	@PMU8050222	1	1	1		1		258	260
MAEU8243658	MAEU8243658	MAEU8243658	MAEU8243658	MAEU8243668	1	1	0				262	264
GATU4028772	GATU4028772	GATU4028772	GATU4028772	GATU4028772	1	1	1				266	268
MAEU7003903	MAEU7003903	NAEU7003015	NAEU7003013	@@JU700333%	0	0	0				270	272
MSCU2266790	MSCU2266790	MSCU2266790	MSCU2266790	MSCU2266790	1	1	1				273	274
TRLU3464527	TRLU3464527	TRLU3464527	TRLU3464527	TRLU3464527	1	1	1				275	275
TRLU6383012	TRLU6383012	TRLU6383012		TRLU6383012	1	0	1				277	279
GSTU9307159	GSTU9307159	GSTU9307159	GSTU9307159	GSTU9307159	1	1	1				280	282
SEAU7873710	SEAU7873710	SEAU7873710	SEAU7873710	SEAU7873710	1	1	1				284	286
PONU0368744	PONU0368744	PONU0368744	PONU0368744	PONU0368744	1	1	1				287	288
SCMU2029750	SCMU2029750	SCMU2029750	SCMU2029750	SCMU2029750	1	1	1				291	292
CLHU235754*	CLHU235754*	CLHU2357540	CLHU235754%	CLHU235754%	1	1	1	1	1		292	293
NYKU2466804	NYKU2466804	NYKU2466804	NYKU2466804	NYKU2466804	1	1	1				295	296
MSCU2180823	MSCU2180823	MSCU2180823	MSCU2180823	MSCU2180823	1	1	1				296	297
MSCU1857756	MSCU1857756	MSCU1857756	MSCU1857756	MSCU1857756	1	1	1				298	299
NYKU2524921	NYKU2524921	NYKU2524921	*ZSU492111%	NYKU2524921	1	0	1				300	300
INBU3686336	IN*U36*633*	INBU3686336	INBU3686336	IN+U362633%	1	1	0		1		302	303
TORU710041*	TORU710041*	TORU7100411	TORU710041%	TORU710041%	1	1	1	1	1		303	304
MSCU2897687	MSCU2897687	MSCU2897687	MSCU2897687	MSCU2897687	1	1	1				306	306
PONU0756842	PONU0756842	PONU0756842	PONU0756842	PONU0756842	1	1	1				307	308
LCRU2110340	LCRU2110340	LCRU2110340	LCRU2110340	LCRU2110340	1	1	1				311	311

MSCU1966206	MSCU1966206	MSCU1966206	MSCU1966206	JSCU1966706	1	1	0				312	312
TRIU9821210	TRIU9821210	TRIU9821210	TRIU9821210	TRIU9821210	1	1	1				315	317
PONU7309358	PONU7309358	PONU7309358	PONU7309358	PONU7309358	1	1	1				320	322
PONU1608270	PONU1608270	PONU1608270	PONU1608270	PONU1608270	1	1	1				324	326
MSCU1868874	MSCU1868874	MSCU1868874	MSCU1868874	MSCU1868874	1	1	1				329	329
CRXU2195770	CRXU2195770	CRXU2195770	CRXU2195770	CRXU2195770	1	1	1				330	331
MSCU1964667	MSCU1964667	MSCU1964667	MSCU1964667	MSCU1964667	1	1	1				334	335
TRLU2344379	TRLU2344379	TRLU2344379	TRLU2344379	TRLU2344370	1	1	0				335	336
MSCU106933*	MSCU1069332	MSCU1069332	MSCU106933%	MSCU1069337	1	1	0	1			338	339
POCU0367786	POCU0367786	POCU0367786	POCU0367786	POCU0367786	1	1	1				339	340
POCU0154862	POCU0154862	POCU0154862		POCU0154862	1	0	1				344	345
PONU0100664	PONU0100664	PONU0100664	PONU0100664	PONU0100664	1	1	1				342	343
CRXU2681410	CR*U268141*	CRXU2681410	CRXU2681410	CRXU2681410	1	1	1		1		347	348
CRXU2496330	CRXU2496330	CRXU2496330	CRXU2496330	CRXU2496330	1	1	1				349	350
NYKU6041942	NYKU6041942	NYKU6041942	YKIU6041942	NYKU6041942	1	0	1				347	350
PONU0975100	PONU0975100	PONU0975100	PONU0975100	PONU0975100	1	1	1				352	353
APMU2747230	APMU2747230	APMU2747230	APNU2747230	APMU2747230	1	0	1				354	354
SCMU2005255	SCMU2005255	SCMU2005255	SCMU2005255	SCMU2005255	1	1	1				357	358
MSCU2943648	MSCU2943648	MSCU2943648	MSCU2943648		1	1	0				358	359
GLDU0901503	GLDU0901503	GLDU0901503	GLDU0901503	GLDU0901503	1	1	1				357	359
POCU0492730	POCU0492730	POCU0492730	POCU0492730	POCU0492730	1	1	1				362	362
POCU4022083	POCU4022083	POCU4022083	POCU4022083	POCU4022083	1	1	1				363	363
FBXU8891463	FBXU8891463	FBXU8891463	FBXU8891463	FBXU8891463	1	1	1				366	366
OCLU4190514	OCLU4190514	OCLU4190514	OCLU4190514	OCLU4190514	1	1	1				367	367
PO*U0*157*	POCU0415781	POCU0415781	PO+U0115761	POCU0415781	1	0	1	1			369	370
SEAU2195292	SEAU2195292	SEAU2195292	SEAU2195292	SEAU2195292	1	1	1				371	371
PONU0785877	PONU0785877	PONU0785877	PONU0785877	PONU0785877	1	1	1				374	374
POCU0310538	POCU0310538	POCU0310538	POCU0310538	POCU0310538	1	1	1				375	376
MLCU2133407	MLCU2133407	MLCU2133407	MLCU2133407	MLCU2133407	1	1	1				378	378
MSCU1212818	MSCU1212818	NSCU1217810	NSCU1217810	MSCU1212810	0	0	0				379	380
CMBU2325157	***********	CMBU2325157	CMBU2325157	LXBU225157%	1	1	0		1		382	382
TRLU0250080	TRLU0250080	TRLU0250080	TRLU0250080	TRLU0250080	1	1	1				383	383
MSCU172922*	MSCU172922*	MSCU1729225	MSCU172922%	MSCU172922%	1	1	1	1	1		386	387
POCU4015886	POCU4015886	POCU4015886	POCU4015886	POCU4015886	1	1	1				387	388
POCU0132668	POCU0132668	POCU0132668	POCU0132668	POCU0132668	1	1	1				390	391
TRIU31*1645	TRIU3131645	TRIU3131645	TRIU3131646	IRIU3131645	1	0	0	1			391	392
POCU0016035	POCU0016035	POCU0016035	POCU0016035	POCU0016035	1	1	1				394	394
SCZU633936*	SCZU6339360	SCZU6339971	SCZU633997%	SCZU892210%	0	0	0	1			395	396
TPHU8173559	TPHU8173559	TPHU8173559	TPHU8173559	TPHU8173559	1	1	1				398	398
GATU0491942	GATU0491942	GATU0491942	GATU0491942	GATU0491942	1	1	1				399	399
MSKU2030993	MSKU2030993	MSKU2030993	MSKU2030993	MSKU2030993	1	1	1				401	402
POCU01685*4	POCU0168594	POCU0168594	POCU0168594	POCU0168594	1	1	1	1			402	403
MSKU2600946	MSKU2600946	MSKU2600946	TTNU2145%%%	MSKU2600946	1	0	1				407	408
TTNU2145***	TTNU21454**	MSKU2600946	MSKU2600946	TTNU21452%%	0	0	0	1	1	1	406	406
GLDU0182164	GLDU0182164	GLOU0182168	GLOU0182164	GLOU0182164	0	0	0				409	410
GATU0365456	GATU0365456	GATU0365456	GATU0365456	GATU0365456	1	1	1				410	411
MAEU6818938	MAEU6818938	MAEU6818938	MAEU6818938	AAEU6818938	1	1	0				412	413
MSKU2226245	MSKU2226245	MSKU2226245	MSKU2226245	MSKU2226245	1	1	1				413	414
INBU3906831	INBU3906831	INBU3906831	INBU3906831	INBU3906831	1	1	1				415	416
MSCU25152**	MSCU25152**	MSCU2515233	MSCU25157%%	MSCU251523%	1	0	1	1	1		416	417
MAEU7753087	MAEU7753087	MAEU7753087	MAEU7753187	MAEU7753087	1	0	1				418	419
CRXU12782**	CRXU1278***	CRXU1278???	CRXU12782%%	CRXU12780%%	0	0	0	1	1	1	419	420
MSCU2376251	MSCU2376251	MSCU2376251	MSCU2376251	MSCU2376251	1	1	1				422	423
MAEU7775661	MAEU7775661	MAEU7775661	MAEU7775661	MAEU7775661	1	1	1				424	425
PONU1439462	PONU1439462	PONU1439462	PONU1439462	PONU1439462	1	1	1				427	429
PONU1498125	PONU1498125	PONU1498125	PONU1498125	PONU1498125	1	1	1				427	429
MSCU8424589	MSCU8424589	MSCU8424589	MSCU8424589	MSCU8424589	1	1	1				432	434
PONU3034397	PONU3034397	PONU3034397	POWU3034397	PONU3034397	1	0	1				432	434
LCRU4511932	LCRU4511932	LCRU4511932	LCRU4511932	LCRU4511932	1	1	1				436 -	438
SEAU4806826	SEAU4806826	SEAU4806826	SEAU4806826	SEAU4806826	1	1	1				436	438
PONU0725055	PONU0725055	PONU0725055	PONU0725055	PONU0776237	1	1	0				441	441
PONU0776237	PONU0776237	PONU0776237	PONU0776237	PONU0725055	1	1	0				442	443
KNLU3319878	KNLU3319878	KNLU3319878	KNLU3319878	LNLU3319878	1	1	0				445	446
TRLU2259810	TRLU225*810	TRLU2259810	TRLU2259810	TRLU2257810	1	1	0		1		447	448
CMBU2352424	CMBU2352424	CMBU2352424	CMBU2952424	C+BU735242%	1	0	0				450	451
SEAU2197*30	SEAU2197530	SEAU2197530	SEAU2197530	SEAU8197530	1	1	0	1			452	452
TEXU3238012	TEXU3238012	TEXU3238012	TEXU3238012	TEXU3238012	1	1	1				455	456
PONU0371080	PONU0371080	PONU0371080	PONU0371080	PONU0371080	1	1	1				456	457
ITLU6786181	ITLU6786181	ITLU6786181	ITLU6786181	ITLU6786181	1	1	1				460	460
GSTU2841239	GSTU*841239	GSTU2841239	GSTU2841239	GSTU7691239	1	1	0		1		461	462

SCZU7385816	SCZU7385816	SCZU7385816	SCZU7385816	SCZU1385816	1	1	0				464	464
TEXU2445247	TEXU2445247	TEXU2445247	TEXU2445247	TEXU2445247	1	1	1				465	466
TEXU3914631	TEXU3914631	TEXU3914631	TEXU3914631	TEXU3914631	1	1	1				468	468
MAEU6824360	MAEU6824360	MAEU6824360	MAEU6824360	MAEU6824360	1	1	1				469	470
CAXU6027390	CA*U602739*	CAXU6027390	CAXU6027390	@AIU6027390	1	1	0		1		472	472
POCU0159020	POCU0159020	POCU0159020	POCU0159020	POCU0159020	1	1	1				473	473
PONU2937372	PONU2937372	PONU2937372	PONU2937372	PONU2937372	1	1	1				475	476
CLHU2877264	CLHU2877264	CLHU2877264	CLHU2877264	CLHU2877264	1	1	1				477	477

Nb of containers	213	Match Code ID	196		
Nb Of Invalid	7	Match Code ID C1	158	Nb Of Invalid C1	39
Nb Of Valid	206	Match Code ID C2	156	Nb Of Invalid C2	37
Perfect match code	127				

	C1	C2	PoM	TOTAL
Accuracy	90,80%	88,64%	95,15%	92,02%

DTI Representative Date

Port of Montreal Representative Date

The Crown, as represented by the Gov. Of Canada Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-27	05 03 19	897		88	88	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
OCLU1491664	OCLU1491664	OCLU1491664	OCLU1491664	OCLU1491664	1	1	1				9	11
PONU7475847	PONU7475847	PONU7475847	PONU7475847	PONU7475847	1	1	1				13	15
MSCU8166606	MSCU8166606	MSCU8166606	MSCU8166606	MSCU816660%	1	1	1				17	19
TEXU4135908	TEXU4135908	TEXU4135908	TEXU4135908	TEXU4135908	1	1	1				22	24
TRLU9236709	TRLU9236709	TRLU9236709	TRLU9236709	@IMU9236709	1	1	0				22	24
MSKU*091615	MSKU6091615	MSKU6091615	MSKU6091615	MSKU6091615	1	1	1	1			26	28
NYKU6087455	NYKU6087455	NYKU6087455	NYKU6087455	NYKU6087455	1	1	1				30	32
FRLU8614992	FRLU8614992	FRLU8614992	FRLU8614992	FRLU8614992	1	1	1				34	35
PONU1641093	PONU1641093	PONU1641093	PONU1641093	PONU1641093	1	1	1				37	39
NDLU4012703	NDLU4012703	NDLU4012703	NDLU4012703	NDLU4012703	1	1	1				37	39
KNLU5107780	KNLU5107780	KNLU5107780	KNLU5107780	KNLU5107780	1	1	1				42	44
INBU4660634	INBU4660634	INBU4660634	INBU4660634	INBU4660634	1	1	1				42	44
GLDU4058296	GLDU4058296	GLDU4058296	GLDU4058296	GLDU4058296	1	1	1				52	54
POCU1065219	POCU1065219	POCU1065219	POCU1065219	POCU0652119	1	1	0				52	54
U8***	CAXU7186842	CAXU7186842		CAXU7186848	1	0	0	1			57	59
TTNU47086**	TTNU47086**	TTNU47086??	TTNU47086%%	TTNU47086%%	0	0	0	1	1	1	57	59
MLCU4623403	MLCU4623403	MLCU4623403	MLCU4623403	HLCU4623403	1	1	0				62	64
GLDU0966417	GLDU0966417	GLDU0966417	GLOU0066417	GLOU0966417	1	0	0				62	64
MAEU6391677	MAEU6391677	MAEU6391677	MAEU6391677	MAEU6391677	1	1	1				67	69
MSCU8153980	MSCU8153980	MSCU8153980	MSCU8153980	MSCU8153980	1	1	1				67	69
MAEU6269463	MAEU6269463	MAEU6269463	MAEU6269463	MAEU6269463	1	1	1				72	74
OCLU1515215	OCLU1515215	OCLU1915211	OCLU5152115	OCLU1915211	0	0	0				72	74
SEAU8187870	SEAU8187870	SEAU8187870	SEAU8187870	SEAU8187870	1	1	1				77	79
MSKU6061462	MSKU6061462	MSKU6061462	MSKU6061462	MSKU6061462	1	1	1				82	84
PONU1*96994	PONU1296994	PONU1296994	PONU1896994	PONU1296994	1	0	1	1			82	84

Nb of containers	25	Match Code ID	23		
Nb Of invalid	1	Match Code ID C1	20	Nb Of invalid C1	4
Nb Of Valid	24	Match Code ID C2	18	Nb Of invalid C2	1
Perfect match code	17				

	C1	C2	PoM	TOTAL
Accuracy :	95,24%	75,00%	95,83%	92,00%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown, as represented by the Gov Of Canada — Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-28	05 34 37	908		314	314	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
MSCU4518632	MSCU4518632	MSCU4518632	MSCU4518632	MSCU4518632	1	1	1				29	27
PONU7221138	PONU7221138	PONU7221138	PONU7221138	PONU7221138	1	1	1				33	31
TRIU4564906	TRIU4564906	TRIU4564906	TRIU4564906	TRIU4564906	1	1	1				37	35
TGHU4342987	TGHU4342987	TGHU4342987	TGHU4342987	TGHU434298%	1	1	1				40	38
PONU1559642	PONU1559642	PONU1559642	PONU1559642	PONU1559642	1	1	1				44	42
TEXU7001179	TEXU7001179	TEXU7001179	TEXU7001179	TEXU7001179	1	1	1				49	47
TT*U410004*	TTNU4100048	TTNU4100480		TTNU4100486	0	0	0	1			49	47
PONU1457023	PONU1457023	PONU1457023	PONU1457023	PONU1457023	1	1	1				53	51
PONU7442340	PONU7442340	PONU7442340	PONU7442340	PONU7442340	1	1	1				53	51
OCLU*00***9	OCLU***0**9	OCLU100????	OCLU100%%%%		0	0	0	1	1	1	58	56
MAEU6046027	MAEU6046027	MAEU6046027	MAEU6046027	MAEU6046027	1	1	1				58	56
MAEU6832514	MAEU6832514	MAEU6832514	MAEU6832514	UAEU6832514	1	1	0				62	61
GLDU2016584	GLDU2016584	GLOU2016588	GLOU2016584	GLOU2016584	0	0	0				63	62
CLHU8280701	CLHU8280701	CLHU8280701	CLHU828070%	CLHU8280701	1	1	1				63	61
DAYU2023683	DAYU2023683	DAYU2023683	DAYU2023683	DAYU2023683	1	1	1				67	66
MSKU2484511	MSKU2484511	MSKU2484511	MSKU2484511	MSKU2484511	1	1	1				68	67
GATU4009047	GATU4009047	GATU4009047	GATU4009047	GATU4009047	1	1	1				68	66
INBU3609767	INBU360976*	INBU3609767	INBU3609767	INBU3609761	1	1	0		1		72	71
TGHU2548710	TGHU254871*	TGHU2548710	TGHU2548710	TGHU254871%	1	1	1		1		73	72
OCLU1*66609	OCLU**66609	OCLU1661098	OCLU1166609	OCLU166109%	0	0	0	1	1	1	73	71
POCU7042144	POCU7*421*4	POCU7042144	POCU7042144	POCU7042144	1	1	1		1		78	75
TCKU9004353	TCKU9004353	TCKU9004353	@CKU9004353	TCKU9004353	1	0	1				82	80
SCMU4*09473	SCMU4309473	SCMU4309473	SCMU4610947	SCMU4309473	1	0	1	1			86	84
MSKU6039026	MSKU6039026	MSKU6039026	MSKU6039026	MSKU6039026	1	1	1				90	88
TGHU7461146	TGHU7461146	TGHU7461146	TGHU7461146	TGHU7461146	1	1	1				95	92
MSKU2464032	MSKU2464032	MSKU2464032	MSKU2464032		1	1	0				100	99
		MSKU2464032		MSKU2464032	0	0	0	1	1	1		
GLDU2055451	GLDU2055451	GLDU2055451	GLDU2055451	GLDU2055451	1	1	1				98	97
XU92476	*AXU*292476	MOXU0924769	MOXU0924760	@AXU5292076	0	0	0	1	1	1	100	97
GLDU2127510	GLDU2127510	GLDU2127510	GLDU2127510	GLDU2127510	1	1	1				104	103
SEAU2165153	SEAU2165153	SEAU2165153	SEAU2165153	SEAU2165153	1	1	1				105	104
U**4*	CAXU9643824	CAXU9643824		CAXU9643824	1	0	1	1			105	103
SCMU2045638	SCMU2045638	SCMU2045638	SCMU2045638	SCMU2045638	1	1	1				109	108
MSKU2492918	MSKU2492918	MSKU2492918	MSKU2492918	MSKU2492918	1	1	1				110	109
PONU7157574	PONU7157574	PONU7157574	PONU7157574	PONU7157574	1	1	1				110	108
MAEU****042	MAEU5511042	MAEU5511042	MAEU5511042	MAEU5561042	1	1	0	1			116	113
PONU4832750	PONU4832750	PONU4832750	PONU4832750	PONU4832750	1	1	1				116	113
MAEU5739095	MAEU5739095	MAEU5739095	MAEU5739095	MAEU5739095	1	1	1				120	118
MWCU6150277	MWCU6150277	MWCU6150277	GISU6150277	MWCU6150277	1	0	1				120	118
MSAU5604441	MSAU5604441	MSAU5604441	MSAU5604441	MSAU5604441	1	1	1				125	123
***********	KNLU4724643	KNLU4724643	MWLU4724043	KNLU4724643	1	0	1	1			125	123
PONU4746441	PONU4746441	PONU4746441	PONU4746441	PONU4746441	1	1	1				130	128
KNLU4721557	KNLU4721557	KNLU4721557	KNLU6721550	KNLU4721557	1	0	1				130	128
CNGU000875	***********	NCLU0043875	NCLU0043875		0	0	0	1	1	1	135	133
****5506149	MAEU5506149	MAEU5506149	PSLU4068%%%	MAEU5506149	1	0	1	1			135	133
MWCU6259777	MWCU6259777	MICU6259778	MICU6259777	MICU6259777	0	0	0				140	138
TOLU7804933	TOLU7804933	TOLU7804933	TDLU7804933	TOLU7804933	1	0	1				140	138
MWCU6155875	MWCU6155875	MWCU6155875	UUCU6155875	MWCU6155875	1	0	1				145	143
PONU4737692	PONU4737692	PONU4737769	PONU473+769	PONU473+769	0	0	0				145	143
MWCU6152794	MWCU6152794	MWCU6152794	MICU6152794	UVCU6152794	1	0	0				149	147
*NLU4724432	KNLU4724432	KNLU4724432	HNLU4724432	KNLU4724432	1	0	1	1			149	147
PONU7511836	PONU7511836	PONU7511836	PONU7511836	PONU7511836	1	1	1				158	156
PONU1635151	PONU1635151	PONU1635151	PONU1635151	PONU1635151	1	1	1				162	160
X*3****	CAXU483775*	CAXU4837750		CAXU4837753	1	0	0	1	1		167	164
MSCU2109105	MSCU2109105	MSCU2109105	MSCU2109105		1	1	0				175	175
TTNU35221**	TTNU3522***	TTNU3522???	TTNU35221%%	TTNU3522%%%	0	0	0	1	1	1	174	173
IEAU4600012	IEAU4600012	IEAU4600012	IEAU4600012	JSCU2109%%%	1	1	0				180	177
		IEAU4600012		IEAU4600012	0	0	0	1	1	1		
PONU1518514	PONU1518514	PONU1518514	PONU1518514	PONU1518514	1	1	1				175	173
HLXU4455756	HLXU4455756	HLXU4455756	HLXU4455756	HLXU4455758	1	1	0				180	177
MSCU4306377	MSCU4306377	MSCU4306377	MSCU4306377	MSCU4306377	1	1	1				184	182
HLXU6219364	HLXU6219364	HLXU6219364	HLXU6219364	HLXU6219364	1	1	1				184	182
HLXU4314927	HLXU4314927	HLXU4314927	HLXU4314927	HLXU4314926	1	1	0				188	186
HLXU6051394	HLXU6051394	HLXU6051394	HLXU6051394	HLXU6051394	1	1	1				188	186
POCU0279237	POCU0279237	POCU0279237	POCU0279237	POCU0279237	1	1	1				191	190

GSTU5127164	GSTU5127164	GSTU5127164	GSTU5127164	GSTU5127164	1	1	1				192	191
HLXU4576059	HLXU4576059	HLXU4576059	HLXU4576059	HLXU4576059	1	1	1				192	190
MSCU151014*	MSCU151014*	MSCU1510140	MSCU15101%%	MSCU1510140	1	0	1	1	1		196	195
SCZU7679111	SCZU7679111	SCZU7679111	SCZU7679111	SCZU679111%	1	1	0				197	196
PO**7***3**	POCU7052395	POSU7062306	POUU7062306	POGU7052305	0	0	0	1			197	195
MSCU120318*	MSCU1203185	MSCU1203185	MSCU1203186	XSCU1203185	1	0	0	1			201	200
MSCU130569*	MSCU130569*	MSCU1305696	MSCU1305696	MSCU130569%	1	1	1	1	1		202	202
T*LU4077950	TRLU4077950	TRLU4077950	IALU4077950	TRLU4077950	1	0	1	1			202	200
GSTU2498198	GSTU2498198	GSTU2498198	GSTU2498198	GSTU2498198	1	1	1				206	206
TTNU2539089	TTNU2539089	TTNU2539089	TTNU2539089	TTNU2539089	1	1	1				208	207
POCU1049650	POCU1*49650	POCU1049650	POCU1049650	POCU1649650	1	1	0		1		208	206
KNLU3356017	KNLU3356017	KNLU3356017	KNLU3356017	KNLU3356019	1	1	0				212	211
MSCU246548*	MSCU246548*	MSCU2465488	MSCU246548%	MSCU2465488	1	1	1	1	1		213	212
MSCU4083669	M*CU4*83669	MSCU4083669	MSCU4083669	MSCU4083669	1	1	1		1		213	211
MSCU180546*	MSCU180546*	MSCU1805460		MSCU1805460	1	0	1	1	1		217	216
HLCU2056005	HLCU2056005	HLCU2056005	HLCU2056005	ULCU2056005	1	1	0				218	217
OCLU7005501	OCLU7005501	OCIU7605501	OCLU7605501	OCIU7305501	0	0	0				218	216
HLXU4307002	HLXU4307002	HLXU4307002	HLXU4307002	HLXU4307002	1	1	1				222	220
OCLU*0105*7	OC*U7*105*7	DCLU1016597	OCLU1016597	OCLU7610597	0	0	0	1	1	1	222	220
POCU0097865	POCU0097865	POCU0097865	POCU0097865		1	1	0				227	227
INBU3247210	INBU3247210	INBU3247210	INBU3247210	INBU3247210	1	1	1				226	225
TRLU4015578	TRLU4015578	TRLU4015578	TRLU4015578	TRLU4015578	1	1	1				227	225
TRIU544447*	TRIU544447*	TRIU5444470	TRIU544447%	TRIU544447%	1	1	1	1	1		231	229
HLCU4003534	***********	MMCU4353531	HUCU4003531	MMCU13534%%	0	0	0		1		231	229
HLXU4525452	HLXU4525452	HLXU4525452	HLXU4525452	HLXU4525452	1	1	1				235	233
HLCU4064463	HLCU4064463	HLCU4064463	HLCU4064463	HLCU4064453	1	1	0				235	233
TRLU4026130	TRL*40*6130	TRLU4026130	TRLU4026130	TRLU4076130	1	1	0		1		240	237
F*LU***6420	FBLU9026420	EBLU9026420		EBLU9026420	0	0	0	1			240	237
MSCU2438081	MSCU2438081	MSCU2438081	MSCU2438081		1	1	0				243	243
		MSCU2438081	TPHU6117746	MSCU2438081	0	0	0	1	1	1		
MSCU1853895	MSCU1853895	MSCU1853895	MSCU1853895	MSCU1853895	1	1	1				242	241
TPHU5373825	TPHU5373825	TPHU5373825	TPHU5373825	TPHU5373825	1	1	1				243	241
CLHU2430614	CLHU2430614	CLHU2430614	CLHU2430614	CLHU2430614	1	1	1				248	248
TPHU6117746	TPHU6117746	TPHU6117746		TPHU6117746	1	0	1				247	246
*SCU8881*70	*SCU8881*70	MSCU8881570	MSCU8881570	MSCU8881570	0	0	0	1	1	1	248	246
PONU0949306	PONU0949306	PONU0949306	PONU0949306	PONU0949306	1	1	1				252	251
FS*U3253573	FS*U32*3573	FSCU3253573	FSCU3253573	FS+U32+3573	1	1	0	1	1		253	253
PONU7323926	PONU7323926	PONU7323926	PONU7323926	PONU7323926	1	1	1				253	251
*STU*370993	*STU2370993	GSTU2370993	GSTU257099%	@STU2370793	1	0	0	1	1		257	256
CRXU2901388	CRXU2901388	CRXU2901388	CRXU2901388	CRXU2901388	1	1	1				258	257
PONU7308789	PONU7308789	PONU7308789	PONU7308789	PONU7308789	1	1	1				258	256
POCU0509690	POCU0509690	POCU0509690	POCU0609690	POCU0509690	1	0	1				261	261
POCU00289*0	PO*U0028930	POCU0028930	POCU0028930	POCU0028930	1	1	1	1	1		263	262
HLCU4254231	HLC*425*23*	HLCU4254231	HLCU4254231	IILU4425423	1	1	0		1		263	261
HLCU2020614	HLCU2020*14	HLCU2020614	HLCU2020675	MLUU2020314	1	0	0		1		266	266
HLXU3031120	HLXU3031120	HLXU3031120	HLXU3031120	HLXU3031120	1	1	1				268	267
MAEU6063934	MAEU6063*34	MAEU6063410	MAEU606394%	MAEU6063414	0	0	0		1		268	266
HLXU2342642	HLXU2342642	HLXU2342642	HLXU2342642	HLXU2342642	1	1	1				271	270
TPHU6952800	TPHU6952800	TPHU6952800	TPHU6952800	TPHU6952800	1	1	1				272	271
MSKU6095821	MSKU*095*21	MSKU6095821	MSKU6095821	MSKU5095%%%	1	1	0		1		276	274
MSCU8069627	MSCU8069627	MSCU8069627	MSCU8069627	MSCU8069627	1	1	1				280	277
TTNU9258421	TTNU9258421	TTNU9258421	OTNU9258421	TTNU925842%	1	0	1				283	281
GATU0036492	GATU0036492	GATU0036492	IEAU2809810	GATU0036492	1	0	1				285	285
IEAU2809810	IEAU2809810	IEAU2809810	GATU0036492	IEAU2809810	1	0	1				287	286
MSCU1792911	MSCU1792911	MSCU1792911	MSCU1792911	MSCU1792311	1	1	0				290	289
MSCU2426244	MSCU2426244	MSCU2426244	MSCU2426244	MSCU2426244	1	1	1				291	290
TRLU4750490	TRLU4750490	TRLU4750490	TRLU4750490	TRLU4750490	1	1	1				291	289
PONU0315209	PONU0315209	PONU0315209	PONU0315209	PONU0315209	1	1	1				295	294
CLHU2340320	CLHU2340320	CLHU2340320	CLHU2340320	CLHU2340320	1	1	1				296*	295
HLXU6171609	HLXU6171609	HLXU6171609	HLXU6171609	HLXU6171609	1	1	1				296	294

PONU0984354	PONU0984354	PONU0984354	PONU0984354	PONU0984354	1	1	1				299	299
*N*U323097*	INBU323097*	CNBU3230973	@NBU3230973	INBU3230976	0	0	0	1	1	1	301	300
PONU7367117	PONU7*67117	PONU7367117	PONU7367117	ONIU867117%	1	1	0		1		301	299
ICSU4760468	ICSU4760468	ICSU4760468	ICSU4760468	ICSU4760468	1	1	1				304	304
CRXU1717885	CRXU1717885	CRXU1717885	CRXU1717885	CRXU1717885	1	1	1				306	305
PO**1***52*	POCU10695*8	POCU1069533	POCU1216952	POCU1069531	0	0	0	1	1		306	304
POCU0342690	POCU0342690	POCU0342690	POCU0342690	POCU0342690	1	1	1				309	308
CLU088824	OCLU0888240	DCLU0888240	JCLU088824%	DCLU088824%	0	0	0	1			311	310
MSKU6171789	MSKU6171789	MSKU6171789	MSKU6171789	MSKU6171789	1	1	1				311	308

Nb. of containers	130	Match Code ID	112		
Nb. Of Invalid	7	Match Code ID C1	89	Nb. Of Invalid C1	29
Nb. Of Valid	123	Match Code ID C2	86	Nb. Of Invalid C2	29
Perfect match code	68				

	C1	C2	PoM	TOTAL
Accuracy :	88,12%	85,15%	91,06%	86,15%

DTI Representative Date

Port of Montreal Representative Date

The Crown, as represented by the Gov. Of Canada Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRA%
2003-03-28	17 53 39	916		231	231	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
MAEU6730786	***********				0	0	0		1		13	13
GATU0577096	GATU0577096	GATU0577096	GATU0577096	GATU0577096	1	1	1				18	17
MSKU8270501	MSKU8270501	MSKU8270501	MSKU8270501	MSKU8270501	1	1	1				22	20
TTNU9923096	TTNU9923096	TTNU9923096		@TNU9923096	1	0	0				22	20
MAEU6140326	MAEU6140326	MAEU6140326	MAEU6140326	MAEU614%%%%	1	1	0				26	24
T*IU5*407*4	TRIU5140754	TRIU5140754	TWIU5+40754	TRIU5140754	1	0	1	1			26	24
SAMU4012664	SAMU4012664	SAMU4012664	SAMU4012664	SAMU4012664	1	1	1				30	28
MSCU8125274	MSCU8125274	LSCU8175274	MSCU812527%	ISCU8175274	0	1	0				30	28
TTNU9808702	TTNU9808702	TTNU9808702	TTNU9808702	TTNU9808702	1	1	1				34	32
TTNU9602060	TTNU9602060	TTNU9602060	TTMU9602060	TTNU9602060	1	0	1				34	32
OCLU0907607	*C*U090*607	OCLU0907607	OCLU090760%	GCIU090+60%	1	1	0		1		37	36
MAEU4632522	MAEU4632522	MAEU4632522	MAEU4532522	MAEU4632522	1	0	1				38	37
GSTU9468960	GSTU*468960	GSTU9468960	GSTU9468960	GSTU9468960	1	1	1		1		42	40
HLXU4290316	HLXU4290316	HLXU4290316	HLXU4290316	HLXU4290316	1	1	1				49	47
GATU8029437	GATU8029437	GATU8029437	GATU8029437	GATU8029437	1	1	1				53	50
HLXU6*05382	HLXU6105382	HLXU6105382	HLXU6+05382	HLXU6105382	1	0	1	1			56	54
HLXU4149925	HLXU4149925	HLXU4149925	HLXU4149925	HLXU4149925	1	1	1				60	57
PONU7104255	PONU7104255	PONU7104255	PONU7104255	PONU7104255	1	1	1				60	57
HLXU6203178	HLXU6203178	HLXU6203178	HLXU6203178	HLXU6203178	1	1	1				63	61
HLXU4424544	HLXU4424544	HLXU4424544	HLXU4424544	HLXU1442454	1	1	0				63	61
HLXU6027470	HLXU**27470	HLXU6027470	HLXU6027470	HLXU727470%	1	1	0		1		68	66
***********	HLXU4571611	HLXU4571611		HLXU4571611	1	0	1	1			58	66
HLXU4549984	HLXU4549984	HLXU4549984	HLXU5499810	HLXU4549984	1	0	1				73	71
****8366588	GATU8366588	GATU8366588	Y+IU8366588	GATU8366588	1	0	1	1			73	71
HLXU4009857	HLXU4009857	HLXU4009857	HLXU4009857	HLXU4009857	1	1	1				78	75
HLXU4064962	HLXU4*6496*	HLXU4064962	HLXU4064962	HLXU4064962	1	1	1		1		78	75
HLXU4081492	HLXU408*49*	HLXU4081492	HLXU4081499	HLXU408+492	1	0	0		1		83	80
HLXU4598206	HLXU**98206	HLXU4598206	HLXU4598206	HLXU598206%	1	1	0		1		83	80
HLXU4243525	HLXU4243525	HLXU4243525	HLXU4243525	HLXU4243525	1	1	1				88	85
GATU82860*5	GATU8286055	GATU8286055	GATU8286055	GATU8286055	1	1	1	1			88	85
OCLU1490631	OCLU1490631	OCLU1490631	OCLU1490631	OCLU1490637	1	1	0				93	90
HLXU4080665	HLXU4080665	HLXU4080665	HLXU4080665	HLXU4080665	1	1	1				97	95
HLXU4*98318	HLXU4198318	HLXU4198318	HLXU4+98318	HLXU4198318	1	0	1	1			101	99
HLXU6163080	HLXU6163080	HLXU6163080	HLXU6163080	HLXU6163080	1	1	1				105	103
*SLY1*3*2*5	*SLY1032295	HLXU2255717	HLXU2255717	*IIU3121219	0	0	0	1	1	1	107	107
HLXU2255717	HLXU2255717	HLXU2255717	ZLIU3122115	HLXU2255717	1	0	1				109	108
GSTU**51576	GSTU4851576	GSTU4851576	II@U5157+91	GSTU4851576	1	0	1	1			112	111
TEXU2550556	TEXU2550556	TEXU2550556	TEXU2550556	TEXU2550556	1	1	1				114	113
ICSU1799656	ICSU1799656	ICSU1799656	ICSU1799656	ICSU1799656	1	1	1				114	111
POCU0036392	POCU0036392	POCU0036392	POCU0036392	POCU0036392	1	1	1				117	116
MSKU2393160	MSKU2393160	MSKU2393160	MSKU2393160	MSKU2393160	1	1	1				118	117
SEAU7811805	SEAU7811805	SEAU7811805	SEAU7811805	SEAU7811805	1	1	1				118	116
TTNU3032864	TTNU3032864	TTNU3032864	TTNU3032864	TTNU3032864	1	1	1				122	121
TRIU9008638	TRIU9008638	TRIU9008638	TXIU9008638	TRIU9008638	1	0	1				123	121
CAXU624626*	C*XU*24**69				0	0	0	1	1		123	122
OC*U0*547*6	OCLU0854766	OCLU0854765	OCCU065478%	OCLU085476%	0	0	0	1			127	126
CLHU2521519	CLHU2521519	CLHU2521519	CLHU2521519	CLHU2521519	1	1	1				128	127
TC*U9566197	TCKU9566197	TCKU9566197		@CKU9566197	1	0	0	1			128	126
MSCU4129271	MSCU4129271	MSCU4129271	MSCU4129271	MSCU4129271	1	1	1				133	131
SEAU8590020	SEAU859*020	SEAU8596029	SEAU8590020	SEAU8596020	0	1	0		1		133	131
MAEU8334697	MAEU8334697	MAEU8334697	MAEU3334697	IAEU8334897	1	0	0				138	136
DAYU4204696	DAYU4204696	DAYU4204696	DAYU4204696	DAYU4204696	1	1	1				138	136
TRLU5393952	TRLU5393952	TRLU5393952	TRLU5393952	TRLU5393952	1	1	1				143	141
TTNU4801665	TTNU4801665	TINU4801663		TINU480166%	0	0	0				143	141
ITLU5509156	ITLU5509156	ITLU5509156	ITLU5509156	ITLU5509156	1	1	1				147	145
TTNU5210712	TTNU5210712	TTNU5210712		TINU5210712	1	0	0				147	145
TTNU5551***	TTNU5551***	TTNU555????	TTNU555%%%%	TTNU55517%%	0	0	0	1	1	1	152	150
MAEU6145544	MAEU6145544	MAEU6145544	MAEU6145544	MAEU614554%	1	1	1				152	150
NYKU6562*84	NYKU6562684	NYKU5592684	NYMU5552684	NYGU5562684	0	0	0	1			158	155
TGHU4369186	TGHU4369186	TGHU4369186		TGHU436918%	1	0	1				158	155
MAEU8404259	MAEU8404259	MAEU8404259	MAEU8404259	MAEU8404259	1	1	1				163	161
T*IU4992611	TRIU4992611	TRIU4992611		TRIU4992611	1	0	1	1			163	161
PRSU4056*20	*RSU4056120	PRSU4056120	VRSU4056620	MRSU4056120	1	0	0	1	1		168	166
U3**0	GSTU*533440	GSTU7533440		GSTU7533440	1	0	1	1	1		168	166
GSTU8477741	GSTU8477741	GSTU8477741	GSTU8677741	GSTU8477741	1	0	1				172	170

MAEU6054594	MAEU6054594	MAEU6054594	OSMU6054594	MAEU6054094	1	0	0				172	170
PONU1562224	PONU1562224	PONU1562224	PONU1562224	PONU1562224	1	1	1				176	174
MSKU6095729	MSKU6095729	MSKU6095729	MSKU6095729	MSKU6095729	1	1	1				176	174
MAEU6077223	****6077223	MAEU6077223	MAEU6077223		1	1	0		1		180	178
TTNU9356351	TTNU9356351	TTNU9356351	TTNU9356351	TTNU9356351	1	1	1				180	178
KNLU4323785	KNLU4323785	KNLU4323785	KNLU4323785	KNLU4323785	1	1	1				184	182
TRLU4743064	TR*U4743064	TRLU4743064	@TRU4743064	TRLU4743064	1	0	1		1		184	182
MSKU8306353	MSKU8306353	MSKU8306353	MSKU8306353	MSKU8306353	1	1	1				189	187
MAEU7403155	MAEU7403155	MAEU7403155	MAEU7403155	MAEU7403155	1	1	1				189	187
CLHU8114130	CLHU8114130	CLHU8114130	CLHU8114130	CLHU8114130	1	1	1				192	191
MAEU4545182	MAEU4545182	MAEU4545182	HAFU4545182	MAEU4545182	1	0	1				192	191
TEXU5498132	TE*U5498132	TEXU5498132	TEXU5498132	TEXU5498132	1	1	1		1		196	194
POCU7010466	POCU7010466	POCU7010466	POOU7010466	POCU7010466	1	0	1				196	194
MSCU8810827	MSCU8810827	MSCU8810827	MSCU8810827	MSCU8810827	1	1	1				199	197
MAEU2434317	MAEU243431*	MAEU2434317	MAEU2434317	IAEU243497%	1	1	0		1		199	197
TTNU9585363	TTNU9585363	TTNU9585363	TTNU9585363	TTNU9585363	1	1	1				203	201
MSKU6002599	MSKU6002599	MSKU6002599	MSKU6002599	MSKU6002599	1	1	1				203	201
PONU4813724	PONU4813724	PONU4813724	PONU4813724	PONU4813724	1	1	1				207	205
CRLU9120733	CRLU9120733	CRLU9120733	CRLU9120733	CRLU9120730	1	1	0				207	205
MWCU6233113	MWCU6233113	MWCU6233113	UUCU6233113	NMCU6233113	1	0	0				212	210
C**U9*3506*	CRLU9135060	CRLU9135060	@@BU%%19+13	CRLU9135060	1	0	1	1			212	210
***********	CN[illegible]U000858	IC?U000858?		IC@U000858%	0	0	0	1	1	1	217	215
FSCU5621416	FSCU5621416	FSCU5621416	FSCU5621416	FSCU5621416	1	1	1				217	215
MWCU6255895	MWCU6255895	MWCU6255895	VUCU6255895	VVCU6255895	1	0	0				222	220
CRLU5119610	CRLU5119610	CRLU5119610	CRLU5119610	CRLU5119610	1	1	1				222	220
GCEU7961726	GCEU7961726	GCEU7961726	GCEU7961726	GCEU7961726	1	1	1				227	225

Nb of containers	90	Match Code ID	81		
Nb Of Invalid	2	Match Code ID C1	55	Nb Of Invalid C1	17
Nb Of Valid	88	Match Code ID C2	63	Nb Of Invalid C2	17
Perfect match code	44				

	C1	C2	PoM	TOTAL
Accuracy :	75,34%	86,30%	92,05%	90,00%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown, as represented by the Gov. Of Canada — Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-26	19 23 47	919		137	137	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# image C1	# image C2
HLXU6136681	HLXU6136681	HLXU6136681	HLXU6136681	HLXU6136681	1	1	1				11	13
S*AU7900158	SEAU7900158	SIAU1900158	SIAU9900158	SEAU7900158	0	0	1	1			11	13
TOLU158508*	*OLU1585*8*	TDLU1585081	TOLU15850%%	TOLU1585081	0	0	0	1	1	1	15	17
S*AU8063499	SEAU8063499	SFAU8063490	SFAU8063499	SEAU8063499	0	0	1	1			15	17
TT*******3*	TTNU9826732	TTNU9826732		@TNU9826732	1	0	0	1			20	22
CLHU8180507	CLHU8180507	CLHU8180507	CLHU8180507	CLHU8180507	1	1	1				20	22
TTNU9830645	TTNU9830645	ATNU9830651		@TNU9830651	0	0	0				25	27
MAEU8282649	MAEU8282649	MAEU8282649	MAEU8282649	@JGU8282649	1	1	0				25	27
G*TU8571999	GATU8571999	GATU8571999	G+TU8571999	GATU8571999	1	0	1	1			27	32
HLXU4255980	HLXU4255980	HLXU4255980	HLXU4255980	HLXU4255980	1	1	1				27	32
***********	GSTU8987998	GSTU8987998		GSTU8987998	1	0	1	1			34	36
FSCU4019364	FSCU4019364	FSCU4019364	FSCU4019364	FSCU4019364	1	1	1				37	39
OOLU*712197	OOLU5712197	OOLU5712197	OOLU5712197	OOLU5712191	1	1	0	1			41	43
HLCU4250093	HLCU4250093	HLCU4250093	HLCU4250095	HLCU4250093	1	0	1				44	46
HLXU4146654	HLXU4146654	HLXU4146654	HLXU4146654	HLXU4146654	1	1	1				47	49
HLXU4547554	HLXU4547554	HLXU4547554	HLXU4547553	HLXU4547554	1	0	1				51	53
***********	HLXU6082076	HLXU6082076	HLAU6062076	HLXU6082076	1	0	1	1			51	53
HLCU40634*0	HL*U4063430	HLCU4063430	HLCU4363434	HLCU4063490	1	0	0	1	1		56	58
HLXU42712**	HLXU4271208	HLXU4271208	HLXU427129%	HLXU4271208	1	0	1	1			58	58
MAEU8203526	MAEU8203526	MAEU8203526	MAEU8203526	MAEU8203926	1	1	0				61	63
T*LU40430*1	TRLU4043081	TRLU4043081	TWLU4043081	TRLU4043081	1	0	1	1			61	63
MSCU4168827	MSCU4168827	MSCU4168827	MSCU4168827	MSCU416882%	1	1	1				66	68
TRLU4654990 *	TRLU4654990	TRLU4654990	TRLU6654990	TRLU4654990	1	0	1				66	68
HLXU4390969	HLXU4390969	HLXU4390969	HLXU4390969	HLXU4390369	1	1	0				71	73
HLXU5011381	HLXU5011381	HLXU5011381	HLXU5011381	HLXU5011381	1	1	1				71	73
KNLU5104396	KNLU5104396	KNLU5104396	KNLU5104396	KNLU5104396	1	1	1				75	77
HLXU4651050	HLXU4651050	HLXU4651050	HLXU4651050		1	1	0				75	77
SEAU8266705	SEAU8266705	SEAU8266705	SEAU8266705	SEAU8266705	1	1	1				80	82
KN*U4326254	KNLU4326254	KNLU4326254	KN+U412624%	KNLU4326254	1	0	1	1			80	82
MSCU1549239	MSCU1549239	MSCU1549239	MSCU1549239	MSCU1549239	1	1	1				84	85
MSCU1394266	MSCU1394266	MSCU1394266	MSCU1394266	USCU1394266	1	1	0				88	89
MAEU6109887	MAEU6109887	MAEU6109887	IAEU6109887	MAEU6109867	1	0	0				91	93
GATU8360506	GATU8360506	GATU8360506	GATU8360506	GATU8360506	1	1	1				91	93
OCLU1482580	OCLU14825*0	OCLU1482580	OCLU1482580	OCLU1482560	1	1	0		1		96	98
HLXU4390784	HLXU4390784	HLXU4390784	HLXU4390788	HLXU4380784	1	0	0				98	98
HLXU4487753	HLXU4487753	HLXU4487753	HLXU4487753	HLXU4487753	1	1	1				100	102
HLXU4468619	HLXU4468619	HLXU4468619	HLXU4468619	HLXU4468619	1	1	1				100	102
TTNU464532*	TTNU46453**	TTNU464????	TTNU464%%%%	TTNU46453%%	0	0	0	1	1	1	105	107
***********	***********	TLOU8256866	TLOU825686%		0	0	0	1	1	1	105	107
MSKU8066993	MSKU8066993	MSKU8066993	MSKU8066993	MSKU8066993	1	1	1				110	112
SEAU4683336	SEAU4683336	SEAU4683336	SEAU468333%	SEAU4683336	1	1	1				110	112
HLXU6059190	HLXU6059190	HLXU6059190	HLXU6059190	HLXU6059190	1	1	1				115	117
FSCU6585381	FSCU6585381	FSCU6585381	FSCU6585381	FSCU6585381	1	1	1				115	117
TCKU9379935	TCKU9379935	TCKU9379935	@CKU9379935	TCKU9379935	1	0	1				119	121
IN*U27*836*	INKU2788362	INKU2788362	INKU278836%	INKU2788362	1	0	1	1			119	121
SEAU8467485	SEAU8467485	SEAU8467485	SEAU8467485	SEAU8467485	1	1	1				124	126
MAEU8246641	MAEU8246641	MAEU8246641	MAEU8246641	MAEU8246641	1	1	1				128	130
TTNU9911114	TTNU9911114	TTNU9911114	TTNU991111%	TTNU9911114	1	1	1				132	134

Nb. of containers	48	Match Code ID	42		
Nb. Of invalid	3	Match Code ID C1	27	nb. Of invalid C1	15
Nb. Of Valid	45	Match Code ID C2	33	Nb. Of invalid C2	5
Perfect match code	20				

	C1	C2	PoM	TOTAL
Accuracy	81,82%	76,74%	93,33%	87,50%

DTI Representative — Date

Port of Montreal Representative — Date

The Crown, as represented by the Gov. Of Canada — Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-29	16:52:24	924		558	558	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID - C1	Code ID - C2	PoM Match	Code ID - C1 Match	Code ID - C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
PONU0824649	PONU0824649	PONU0824649	PONU0824649	PONU0824649	1	1	1				12	11
PO*U0702173	PONU0702173	PONU0702173	POIU0702173	PONU0702173	1	0	1	1			13	12
PONU0924870	PONU0924870	PONU0924870	PONU0924870		1	1	0				18	17
PONU0689410	PONU0689410	PONU0689410	PONU0689410	PONU0689410	1	1	1				17	16
TRLU5842***	TRLU58426**	TRLU5842???	TRLU5842%%%	TRLU58426%%	0	0	0	1	1	1	22	19
HLXU4501358	HLXU4501358	HLXU4501358	HLXU4501358	HLXU4501358	1	1	1				25	23
MSKU8205173	MSKU8205173	MSKU8205173	MSKU8205173	MSKU8205173	1	1	1				25	23
SEAU4627395	SEAU4627395	SEAU4627395	SEAU4627399	SEAU4627395	1	0	1				28	26
CLOU2226723	CLOU2226723	CLOU2226723	CLOU2226723	CLOU2226723	1	1	1				31	30
TRIU3674447	TRIU3674447	TRIU3674447	TRIU3674447	TRIU3674410	1	1	0				32	31
GLDU2200652	GLDU2200652	GLDU2200652	GLDU2200652	GLDU2200652	1	1	1				36	35
GATU0772678	GATU0772678	GATU0772678	GATU0772678	GATU0772678	1	1	1				37	36
NYKU2291780	NYKU2291780	???????????	NIMU2291%%%	@MJU02291%%	0	0	0				41	40
POCU0627517	POCU0627517	POCU0627517	POCU0627517	POCU0627517	1	1	1				42	41
MAEU7921663	MAEU7921663	MAEU7921663	IAEU7921663	AAEU7921663	1	0	0				46	45
TRLU3381422	TRLU3381422	TRLU3381422	TRLU3381422	TRLU3381422	1	1	1				48	47
KNLU3017266	KNLU3017266	KNLU3017266	KNLU3017266	KNLU3017266	1	1	1				51	51
MSCU1787242	MSCU1787242	MSCU1787242	MSCU1787242	MSCU1787242	1	1	1				53	52
MAEU6276420	MAEU6276420	MAEU6276420	MAEU6276420	MAEU6276420	1	1	1				53	51
CRXU2394088	CRXU2394088	CRXU2394088	CRXU2394088		1	1	0				57	56
*I*U34*5471	EI*U3**5*7*	CRXU2394088		CRXU2394088	0	0	0	1	1	1	58	57
GESU4509114	GESU4509114	GESU4509114	GESU4509114	GESU5091141	1	1	0				58	56
MSKU6134717	MSKU6134717	MSKU6134717	MSKU6134717	MSKU6131717	1	1	0				63	61
U63**	CAXU706336*				0	0	0	1	1	1	63	61
TCKU9715747	TCKU9715747	TCKU9715747	TCKU9715747	TCKU971574%	1	1	1				69	66
GSTU**22**2	GSTU9622612	GSTU9622612	GSIU22002%%	GSTU9622612	1	0	1	1			69	66
TPHU4927814	TPHU4927814	TPHU4927814	TPHU4927814	TPHU4927814	1	1	1				74	72
GATU4288147	GATU4288147	GATU4288147	GATU4288147	GATU4288147	1	1	1				74	72
*RLU4901745	TRLU4901745	TRLU4901745	TRLU4901749	TRLU4901745	1	0	1	1			79	77
****8*85648	MAEU8285648	MAEU8285648		MAEU8285648	1	0	1	1			79	77
GSTU7396809	GSTU7396809	GSTU7396809	GSTU7396809	OSTU7396809	1	1	0				84	82
MSCU8196468	MSCU8196468	MSCU8196468	MSCU8196468	MSCU819646%	1	1	1				84	82
SCMU2046254	SCMU2*462*4	SCMU2046254	SCMU2046254	SCMU2046254	1	1	1		1		87	87
INBU3759350	INBU3759350	INBU3759350	INBU3759350	INGU3759350	1	1	0				89	88
KN*U4299210	KNLU429921*	KNLU4299210	NZIU1+4300%	KNLU4299210	1	0	1	1	1		89	87
TCKU9917481	TCKU9917481	???U99174??	TCKU99174%%	@@CU99174%%	0	0	0				94	91
MAEU7*80283	MAEU7180283	MAEU7180283	MAEU4411221	MAEU7180283	1	0	1	1			94	91
TEXU7382516	TEXU7382516	TEXU7382516	TEXU7382516	TEXU7382516	1	1	1				99	96
TTNU9804311	TTNU9804311	TTNU9804311		TTNU9804311	1	0	1				99	96
PONU7508977	PONU7508977	PONU7508977	POMU7508977	PONU7508977	1	0	1				104	102
TRIU5147419	TRIU5147419	TRIU5147419		TRIU5147419	1	0	1				104	102
MSKU6182340	MSKU6182340	MSKU6182340	MSKU6182340	MSKU6182340	1	1	1				109	107
INKU233318*	IN*U2333189	INKU2333189	INKU2333189	IN+U2333189	1	1	0	1	1		109	107
TRIU564340*	TRIU5643403	TRIU5643403	TRIU5603406	TRIU5643403	1	0	1	1			115	113
MAEU5749431	MAEU5749431	MAEU5749431	AAAU5749431	MAEU5749431	1	0	1				115	113
TTNU5564681	TTNU5564681	TTNU5564681	TTNU5564681	TTNU5564686	1	1	0				120	118
S**U**13**0	*AMU4013470	SOMU1343101	SOMU1343101	SAMU4013470	0	0	0	1	1		120	118
TRLU4912462	TRLU4912462	TRLU4912462	TRLU4912462	TRLU4912462	1	1	1				125	123
NYKU6970578	NYKU6970578	NYKU6970578	ODOU625003%	NYKU6970578	1	0	1				125	123
TPHU4933**5	TP**4933355	TPHU4933355	TPHU493335%	TPIU4933355	1	1	0	1	1		130	128
APMU8071781	APMU8071781	APMU8071781	APMU8071781	APMU8071781	1	1	1				130	128
GATU0983808	GATU0983808	GATU0983808	GATU0983808	GATU0983808	1	1	1				134	133
INBU304612*	INBU3046128	INBU3046128	INBU3046120	INBU3046128	1	0	1	1			136	135
POCU0194741	POCU0194741	POCU0194741	POCU0194740	POCU0194741	1	0	1				140	139
POCU0*80474	POCU0*80474	POCU0380474	POCU0180474	POCU038047%	1	0	1	1	1		141	140
PONU0764806	PONU0764806	PONU0764806	PONU0764806	POMU0264806	1	1	0				145	145
INBU*2*520*	INBU*2*5*0*	INBU2252084	INBU2252081	INBU3225%%%	0	0	0	1	1	1	147	146
GSTU5910061	***U***0**1	GSTU5910061	GSTU591006%		1	1	0		1		152	151
PONU0209763	PONU0209763	PONU0209763	PONU0209763	PONU0209763	1	1	1				151	150
MAEU**0***4	MAEU7203434	MAEU7203434	KUGU212319%	MAEU7203434	1	0	1	1			156	154
GSTU***92*5	***U***9**5	GSTU46926??	GSTU46926%%		0	0	0	1	1	1	166	165
T*LU2462026	TRLU2462026	TRLU2462026	@RLU2462026	TRLU2462026	1	0	1	1			168	167
MSCU4106907	MSCU4106907	MSCU4106907	MSCU410690%		1	1	0				172	170
POCU3003**6	POCU3003**6	POCU3003???	POCU30035%%	POCU30031%%	0	0	0	1	1	1	172	170
HLXU6115483	HLXU6115483	HLXU6115483	HLXU6115483	HLXU6115483	1	1	1				177	175

NYKU6137031	NYKU6137031	NYKU6137031	NYKU5137031	NYGU6137031	1	0	0				177	175
PONU7458109	PONU74581*9	PONU7458109	PONU7458109	PONU7458169	1	1	0				180	178
HLXU6159429	HLXU6159429	HLXU6159429	HLXU6159423	HLXU6159429	1	0	1				180	178
TTNU9054***	TTNU90548**	TTNU9054???	TTNU90543%%	TTNU90548%%	0	0	0	1	1	1	184	182
HLXU6093492	HLXU6093492	HLXU6093492	HLXU6093492	HLXU6093492	1	1	1				187	185
HLCU45**441	HLCU4597441	HLCU4597441	HLCU4594524	HLCU4597441	1	0	1	1			187	185
HLCU4594524	HLCU45*4524	TWIU5050841	TWIU505084%		0	0	0		1		184	182
INKU2276221	INKU2276221	INKU2276221	INKU2276221	INKU2276221	1	1	1				190	188
**IU*050840	TRIU5050840	TRIU5050840	HLCU4594411	TRIU5050840	1	0	1	1			190	188
MSCU2980488	MSCU2980488	MSCU2980488	MSCU2980488	MSCU2980488	1	1	1				193	192
************	***U***2**0				0	0	0	1	1	1	198	195
CARU5330364	CARU5330364	CARU5330364	CARU5330364	CARU5330364	1	1	1				202	200
HLXU5013194	HLXU5013194	HLXU5013194	HLXU5013194	HLXU5013194	1	1	1				206	204
MLCU4129849	MLCU4129849	MLCU4129849	MLCU4129849	MLCU4129849	1	1	1				210	208
MSCU2135402	MSCU2135402	MSCU2135402	MSCU2135402	MSCU2135402	1	1	1				214	213
HLXU2247060	HLXU2247060	HLXU2247060	HLXU2247060	HLXU2247060	1	1	1				217	216
CAXU2221*35	CAXU2221**5	CAXU2221935	CAXU2221635	CAXU2221935	1	0	1	1	1		218	217
GSTU8203355	GSTU*203355	GSTU8203355	GSTU8203355	GSTU09335%%	1	1	0		1		224	221
MSKU8342160	MSKU8342160	MSKU8342160	MSKU8342160	MSKU8342160	1	1	1				224	221
TRLU6271178	TRLU6271178	TRLU6271178	TRLU6271178	TRLU6271178	1	1	1				229	227
MSCU128440*	MSCU128440*	MSCU1284401	MSCU128440%	MSCU128440%	1	1	1	1	1		233	232
SA*U2180761	SAMU2180761	SACU2180761	SAGU2180761	SAMU2180761	0	0	1	1			235	234
TGHU7915402	TGHU7915402	TGHU7915402	TGHU7915402	TGHU7915402	1	1	1				240	238
PONU7203181	PONU7203181	PONU7203181	PONU7203181	PONU7203183	1	1	0				240	238
MSKU8007291	MSKU8007291	MSKU8007291	MSKU8007291	MSKU8007291	1	1	1				244	242
PONU1374320	PONU1374320	PONU1374320	PONU1374320	PONU1374320	1	1	1				244	242
TGHU7630312	TGHU7630312	TGHU7630312	TGHU7630312	TGHU7630310	1	1	0				248	246
MAEU6300070	MAEU6300070	MAEU6300070	MAEU6300070	MAEU6300070	1	1	1				248	246
TTNU4802888	TTNU4802888	TTNU4802888	TTNU4802888	TINU4802888	1	1	0				253	251
U**6*	CAXU706052*	CAXU7060520		CAXU7060520	1	0	1	1	1		257	255
TEXU7394646	TEXU7394646	TEXU7394646	TEXU7394646	TEXU7393%%%	1	1	0				261	259
TGHU4173146	TGHU4173146	TGHU4173146	TGHU4173146	TGHU4173146	1	1	1				265	263
MAEU6396088	MAEU6396088	MAEU6396088	MAEU6396088	MAEU6396088	1	1	1				269	267
PONU7*12726	PO*U7*127*6	PONU7312726	PONU7312726	PONU7312796	1	1	0	1	1		274	271
TC**9927812	TCKU9927812	TCKU9927812		TCKU9927812	1	0	1	1			274	271
TTNU430944*	TTNU430944*	TTNU4309444	TTNU430944%	TTNU430944%	1	1	1	1	1		277	275
MSKU6161461	MSKU6161461	MSKU6161461	MSKU6111111	MSKU6161461	1	0	1				277	275
TOLU3710271	TOLU3710271	TOLU3710271	TOLU3710271	TOLU3710271	1	1	1				281	279
TRLU4654645	TRLU4654645	TRLU4654645	TRLU4654645	TRLU4654645	1	1	1				281	279
P*RU4022918	PERU4022918	PBRU4067917	PBRU4022919	PBRU4067918	0	0	0	1			285	283
TEXU71*557*	TEXU7195578	TEXU7195578	TEXU7195578	TEXU7195578	1	1	1	1			285	283
KNLU3360871	KNLU3360871	KNLU3360871	KNLU3360874		1	0	0				289	288
CLHU2249720	CLHU2249720	CLHU2249720	CLHU2249720	CLHU2249720	1	1	1				287	287
TRLU6322378	TRLU6322378	TRLU6322378	TRLU6322378	TRLU6322378	1	1	1				289	287
************	HLCU10*9449	IC?U148?410	IC@U148+410		0	0	0	1	1	1	294	291
TOLU2577966	TOLU2577966	TOLU2577966	TOLU2577966	TOLU2577966	1	1	1				292	291
GSTU32***50	GSTU*******	GSTU3282650	GSTU3282650	GSTU328201%	0	0	0	1	1	1	294	293
KNLU336508*	KNLU336508*	KNLU3365087	KNLU3365089		1	0	0	1	1		298	297
TPH*6498370	TPHU6498370	SPHU6498370	@IIU6498370	SPHU6498370	0	0	0	1			297	296
MSCU8059763	MSCU8059763	MSCU8059763	MSCU8059763	MSCU8059763	1	1	1				298	296
HLXU6012438	HLXU6012438	HLXU6012438	HLXU6012438	HLXU6012439	1	1	0				302	300
MAEU6042720	MAEU6042720	MAEU6042720	AAEU6042720	MAEU6042700	1	0	0				302	300
PO*U0*740*7	POCU0174067	PO?U0?74067	PO+U0+74067		0	0	0	1			306	306
*SCU*266**0	MSCU2266470	MSCU2266470	MSCU2466400	MSCU2266470	1	0	1	1			305	304
TCKU9375734	TCKU9375734	TCKU9375734	@@CU9375734	TCKU9375734	1	0	1				306	304
HLXU6211194	HLXU6211194	HLXU6211194	HLXU6211194	HLXU6211194	1	1	1				311	308
************	HLXU4591156	HLXU4591156	JJLU4561%%%	HLXU4591151	1	0	0	1			311	308
HLXU4221871	HLXU4221871	HLXU4221871	HLXU4221871	HLXU4221871	1	1	1				315	313
HLXU4620980	HLXU4620980	HLXU4620980	HLXU4620980	HLXU4620980	1	1	1				315	313
HLXU6096613	HLXU6096613	HLXU6096613	HLXU6096613	HLXU6096613	1	1	1				319	317
S*A*7*57072	SEAU785*0*2	SEAU7854073	AOZU570721%	SEAU7854072	0	0	0	1	1		319	317
HLCU4270079	HLCU4270079	HLCU4270079	HLCU1427007	HLCU4270079	1	0	1				322	320
INBU4985732	INBU4985732	INBU4985732	INBU4985732	INBU4985732	1	1	1				322	320
MSCU8878452	MSCU8878452	MSCU8878452	MSCU8878452	MSCU8878452	1	1	1				325	323
SUDU44988*1	SUDU4498821	SUDU4498821	@MWU4418871	SUOU4498821	1	0	0	1			325	323
PONU7676625	PONU7676625	PONU7676625	PONU7676625	PONU7676625	1	1	1				329	327
HLXU6042638	HLXU6042638	HLXU6042638	HLXU6042638	HLXU6042630	1	1	0				329	327
TPHU6723384	TPHU6723384	TPHU6723384		TPHU6723384	1	0	1				332	332
*STU**15074	GSTU4915074	GSTU4915074	TPHU6723384	GSTU4915074	1	0	1	1			334	333
HLXU6126169	HLXU6126169	HLXU6126169	HLXU6826169	HLXU6126169	1	0	1				334	332

TRIU9051784	TRIU9051784	TRIU9051784	TRIU9051784	IRIU905178%	1	1	0				339	337
SEAU8178883	SEAU8178883	SIAU8178880	SIAU8178883	SEAU8178880	0	0	0				339	337
HLXU4443354	HLXU4443354	HLXU4443354	HLXU4443357	HLXU4443354	1	0	1				344	341
HLXU4362329	HLXU4362329	HLXU4362329	HLXU4362329	HLXU4362329	1	1	1				344	341
MSCU8059465	MSCU8059465	MSCU8059465	MSCU8059465	MSCU8059465	1	1	1				349	346
***********	HLXU6019920	HLXU6019920		HLXU6019920	1	0	1	1			349	346
HLXU3033756	HLXU3033756	HLXU3021375	HLXU3021375		0	0	0				354	353
MSCU2989274	MSCU2989274	MSCU2989274	MSCU2989274	MSCU2989274	1	1	1				352	351
KNLU5027453	KNLU5027453	KNLU4627453	KNIU5077453	KNLU4627453	0	0	0				354	351
MSCU2079269	MSCU2079269	MSCU2079269	MSCU2079269		1	1	0				360	359
TPHU6857763	TPHU6857763	TPHU6857763	TPMU6857763	TPHU6857763	1	0	1				358	357
SEAU8188541	SEAU8188541	SEAU8188541		SEAU8188541	1	0	1				360	357
PONU0172767	PONU0172767	PONU0172767	PONU0172767		1	1	0				365	364
CRXU2988958	CRXU2988958	CRXU2988958	CRXU2988958	CRXU2988958	1	1	1				364	363
HLXU6072761	HLXU6072761	HLXU6072761	HLXU6072761	HLXU6072761	1	1	1				365	363
PONU0789825	***********				0	0	0		1		372	372
***********	MSKU2192510	MSKU2192510	FONU0789825	MSKU2192510	1	0	1	1			370	368
HLXU4441259	HLXU4441259	HLXU4441259	MLXU4441259	HLXU4441259	1	0	1				372	368
HLXU6170109	HLXU6170109	HLXU6170109	HLXU6170109	HLXU6170109	1	1	1				377	375
TRLU6180102	TRLU618*102	TRLU6180102	TRLU6180102	TRLU6183102	1	1	0		1		377	375
TEXU4807010	T*XU4807010	TEXU4807010	TEXU4807010	TEXU4807010	1	1	1		1		381	379
CLHU8454038	CLHU8454038	CLHU8454038	CLHU845403%	CLHU8454038	1	1	1				381	379
MSCU4008840	MSCU4008840	MSCU4008840	ISCU4008840	MSCU4008840	1	0	1				386	384
***********	CMBU4085219	CMBU4085219		CMBU4085219	1	0	1	1	1		386	384
HFCU4167270	HFCU4167270	HFCU4167270	HFCU4167270	MFCU4167270	1	1	0				391	389
CAXU4397477	CAXU439*477	CAXU4397477	CAXU4397477	@AXU4397477	1	1	0		1		394	392
PONU7540460	PONU7540460	PONU7540460	PONU7540460	PONU7540460	1	1	1				398	396
MSCU4241260	MSCU4241260	MSCU4241260	MSCU4241260	MSCU4241260	1	1	1				402	400
HLXU4221980	HLXU4*21*80	HLXU4221980	HLXU4221980	HLXU4221+80	1	1	0		1		406	404
SEAU7853354	SEAU7853354	SEAU7853354	SEAU7853354	SEAU7853354	1	1	1				411	409
HLXU6195787	HLXU6195787	HLXU6195787	HLXU6195787	HLXU6195787	1	1	1				411	409
PONU7571537	PONU7571537	PONU7571537	PONU7571537	PONU7571537	1	1	1				415	413
TRIU4683612	TRIU4683612	TRIU4683612		TRIU4683612	1	0	1				415	413
MSCU8734100	MSCU8734100	MSCU8734100	MSCU8734100	MSCU8734100	1	1	1				419	417
U6**2	*STU7576272	GSTU7576272		GSTU757627%	1	0	1	1	1		419	417
HLXU6170182	HLXU6170182	HLXU6170182	HLXU1617018	HLXU6170182	1	0	1				423	421
TRLU5442018	TRLU5442018	TRLU5442018	TRLU5448018	TRLU5442018	1	0	1				423	421
MSCU8190900	MSCU8190900	MSCU8190900	MSCU8190900	MSCU8190900	1	1	1				427	425
MSCU4272868	MSCU4272868	MSCU4272868		MSCU4272868	1	0	1				427	425
TPHU5378030	TPHU5378030	TPHU5378030	TPHU5378030	TPHU5378030	1	1	1				432	430
ND*U4015467	NDLU4015467	NDLU4015467	NDLU4015417	NDLU4015467	1	0	1	1			432	430
CARU4442950	CARU4442950	CARU4442950	CARU4442950	CARU4442950	1	1	1				436	434
PONU1230826	PONU1230826	PONU1230826	PONU1230826	PONU1230826	1	1	1				436	434
TTNU40475**	TTNU4047***	TTNU4047???	TTNU40475%%	TTNU40476%%	0	0	0	1	1	1	441	439
CRXU4190864	CRXU4190864	CRXU4190864	CRXU4190864	CRXU4190864	1	1	1				441	439
MAEU8097928	MAEU8097928	MAEU8097928	MAEU8097928	MAEU8097928	1	1	1				446	444
PONU7662956	PONU7662956	PONU7662956	PONU7662956	PONU7662956	1	1	1				446	444
OCLU9041339	OCLU90413*9	OCLU9041339	OCLU9041339	OCLU9041339	1	1	1		1		449	448
HLXU2177126	HLXU2177126	HLXU2177126	HLXU2177126	HLXU2177126	1	1	1				450	449
MAEU71414*2	MAEU71414**	IAEU7141488	IAEU7141480	MAEU734+118	0	0	0	1	1	1	450	448
OCLU9*35362	OCLU903536*	OCLU9035362	OCLU943536%	OCLU903536%	1	0	1	1	1		453	452
HLCU2252604	HLCU2252604	HLCU2252604	HLCU2252604	HLCU2252604	1	1	1				454	453
KNLU5103738	KNLU5103738	KNLU5103738	KNLU103719%	KNLU5103738	1	0	1				454	452
MSCU1073287	MSCU1073287	MSCU1073287	MSCU1073287	MSCU1073287	1	1	1				457	456
MSCU1281660	MSCU1281660	MSCU1281660	MSCU1281660	MSCU1281660	1	1	1				458	458
HLCU4583812	HLCU4583812	HLCU4583812	HLCU4583812	HLCU4583810	1	1	0				458	456
KNLU3319219	KNLU331921*	KNLU3319219	KNLU3319219	KNLU3251921	1	1	0		1		461	460
TOLU2319370	TOLU2319370	TOLU2319370	TOLU2319370	TOLU2319370	1	1	1				462	461
HLXU4494644	HLXU4494644	HLXU4494644	HLXU4494644	HLXU4494644	1	1	1				462	460
CRXU4567829	CRXU4567829	CRXU4567829	CRXU4567823	CRXU4567829	1	0	1				467	465
SEAU7849164	SEAU7849164	SEAU7849164	SEAU7849164	SEAU784916%	1	1	1				471	469
MSCU8209400	MSCU8209400	MSCU8209400	MSCU8209400	MSCU8209400	1	1	1				476	473
MSCU8048671	MSCU8048671	MSCU8048671		MSCU804867%	1	0	1				480	478
HFCU4017272	HFCU4017272	TFCU4017272	MFCU4017272	HFCU4017272	0	0	1				484	482
TRLU4117420	TRLU4117420	TRLU4117420	@RLU4117420	TRLU4117420	1	0	1				489	487
TEXU7001158	TEXU7001158	TEXU7001158	TEXU7001158	TEXU7001158	1	1	1				489	487
TRLU4319014	TRLU4319014	TRLU4319014	TRLU4319014	TRLU4319014	1	1	1				495	492
TRLU4341255	TRLU4341255	TRLU4341255	TRLU4341255	TRLU4341255	1	1	1				495	492
UESU4151169	UESU4151169	UESU4151169	UESU4151169	UESU4151169	1	1	1				500	498
KNLU5098415	KNLU5098415	KNLU5098415	KNLU098415%	KNLU5098415	1	0	1				500	498

TTNU41275**	TTNU41275**	TTNU41275??	TTNU41275%%	TTNU41275%%	0	0	0	1	1	1	505	503
KNLU5091339	KNLU5091339	KNLU5091339	KNIU091339%	KNLU5091339	1	0	1				505	503
PONU7540140	PONU7540140	PONU7540140	PONU7540140	POWU7340140	1	1	0				509	507
***********	XSAR***79**	?ULU8?6794?		@ULU8+6794%	0	0	0	1	1	1	509	507
CAXU409331*	CAXU40*331*	CAXU4093319	CAXU4093319	CAXU4093%%%	1	1	0	1	1		514	512
OCLU***51*9	OCLU***5179	OCLU1???9??	OCLU11519%%	OCLU15179%%	0	0	0	1	1	1	514	512
HLXU2065390	HLXU2065390	HLXU2065390	HLXU2065390	HLXU2065390	1	1	1				518	517
EMCU3232650	EMCU3232650	EMCU3232650	EMCU3232850	EMCU3232650	1	0	1				519	518
HLXU4370540	HLXU4370540	HLXU4370540	HLXU4370540	HLXU4370540	1	1	1				523	520
HLXU4266201	HLXU4266201	HLXU4266201	HLXU4266201	HLXU4266201	1	1	1				526	524
HLXU6073726	HLXU6073726	HLXU6073726	HLXU6073726	HLXU6073726	1	1	1				530	527
HLXU4394898	HLXU4394898	HLXU4394898	HLXU4394898	HLXU4394898	1	1	1				533	531
CAXU9831729	CAXU**3172*	BBBU7260???	BBBU7260%%%		0	0	0		1		538	536
HLXU6094565	HLXU6094565	HLYU6094565	HLXU6094565	HLXU6094565	1	1	1				542	450
HLXU6182959	HLXU6182959	HLXU6182959	HLXU6182959	HLXU6182959	1	1	1				546	544
HLXU4396437	HLXU4396437	HLXU4396437	HLXU4396437	HLXU4396437	1	1	1				550	548
HLXU6077491	HLXU6077491	HLXU6077491	HLXU6077491	HLXU6077491	1	1	1				550	548
HLXU4570662	HLXU4570662	HLXU4570662	HLXU4570662	HLXU4570662	1	1	1				554	552
***********	HLXU6033997	HLXU6033997	**IU6110741	HLXU6033997	1	0	1	1			554	552

Nb of containers	224	Match Code ID	194		
Nb Of Invalid	15	Match Code ID C1	133	Nb Of Invalid C1	56
Nb Of Valid	209	Match Code ID C2	156	Nb Of Invalid C2	43

Perfect match code 100

	C1	C2	PoM	TOTAL
Accuracy :	79,17%	86,19%	92,02%	86,61%

DTI Representative Date

Port of Montreal Representative Date

The Crown, as represented by the Gov. Of Canada Date

DTI

Acceptance Tests Form

DATE	MOVE TIME	MOVE NO	TIME TAKEN	IMAGES C1	IMAGES C2	OCRAIL
2003-03-29	19 20 03	927		145	145	Timestamp

Visual Inspection C1	Visual Inspection C2	PoM Consist	Code ID C1	Code ID C2	PoM Match	Code ID C1 Match	Code ID C2 Match	Invalid C1	Invalid C2	Invalid	# Image C1	# Image C2
U3**7	GSTU9073847	GSTU9073847		GSTU907384%	1	0	1	1			10	12
HLXU3022999	HLXU3022999	HLXU3022999	HLXU3022997	HLXU3022999	1	0	1				10	11
HLCU2032662	HLCU20*26*2	HLCU2032662	HLCU2032662	HLCU2082652	1	1	0		1		11	12
HLCU4*859*3	HLCU4085933	HLCU4085933	HLCU4085933	HLCU4085933	1	1	1	1			14	16
GATU8273335	GATU8273335	GATU8273335	GATU8273335	GATU8273335	1	1	1				14	16
***********	HLXU6218537	HLXU6218537		HLXU6218537	1	0	1	1			19	21
MSCU8991751	MSCU8991751	MSCU899????	MSCU8991%%%	MSCU899%%%%	0	0	0				19	21
HLXU6087015	HLXU6087015	HLXU6087015	HLXU6087015	HLXU6087015	1	1	1				23	25
HLXU4005893	HLXU400*893	HLXU4005893	HLXU4005893	HLXU4005893	1	1	1		1		23	25
POCU0488176	POCU0488176	POCU0488176	POCU0488176	POCU0488176	1	1	1				28	29
HLCU2404899	HLCU2404899	HLCU2404899	HLCU2404891	HLCU2404899	1	0	1				29	30
PONU7514753	PONU7514753	PONU7514753	PONU7514753	PONU7514753	1	1	1				28	30
HLCU4253024	HLCU*25*024	HLCU4253024	HLCU4253024	HLCU7125702	1	1	0		1		33	35
****403****	HL**40399**	MLCU4039067	MLCU4039069	HLDU4039613	0	0	0	1	1	1	33	35
HLXU4366284	HLXU4366284	HLXU4366284	HLXU4366284	HLXU4366284	1	1	1				38	40
OOLU5134782	OOLU5134782	OOLU5134782	OOLU5134782	OOLU5134782	1	1	1				38	40
HLXU4276540	HLXU4276540	HLXU4276540	HLXU4276540	HLXU4276540	1	1	1				42	44
HLXU4250817	HLXU4250817	HLXU4250817	HLXU4950817	HLXU4250817	1	0	1				42	44
HLXU4412380	HLXU4412380	HLXU4412380	HLXU4412384	HLXU4412380	1	0	1				47	49
HLCU4162351	HLCU4162351	HLCU4162351	HLCU4162351	HLCU4162351	1	1	1				47	49
HLXU2301978	HLXU2301978	HLXU2301978	HLXU2301978	HLXU2301978	1	1	1				52	52
OOLU7166475	OOLU7166475	OOLU7166475	OOLU7166475		1	1	0				52	54
OOLU5244938	OOLU5244938	OOLU5244938	OOLU5244938	OOLU5244938	1	1	1				56	58
HLCU4270485	HLCU4*70485	HLCU4270485	MLCU4270485	ULCU4270485	1	0	0		1		56	58
HLXU4585596	HLXU458559*	HLXU4585596	PLXU4585596	HLXU4585593	1	0	0		1		60	62
HLXU4021410	HLXU4021410	HLXU4021410	HLXU4021410	HLXU4021410	1	1	1				60	62
HLXU4491352	HLXU4491352	HLXU4491352	HLXU4491352	HLXU4491352	1	1	1				64	66
HLXU407585*	HLXU407585*	HLXU4075859	HLXU4075858	HLXU4075859	1	0	1	1	1		64	66
HLXU4064197	HLXU406*197	HLXU4064197	HLXU4064196	HLXU4064197	1	0	1		1		67	69
HLXU6140444	HLXU6140444	HLXU6140444	HLXU6140444	HLXU6140444	1	1	1				67	69
HLCU4252748	HLCU4252748	HLCU4252748	HOCU4252748	HLCU4252748	1	0	1				71	73
HLXU4252358	HLXU4252358	HLXU4252358	HLXU4252358	HLXU4252358	1	1	1				71	73
OOLU8018533	OOLU8018533	OOLU8018533	OOLU8018533	OOLU8018533	1	1	1				76	78
HLXU6009136	HLXU6009136	HLXU6009136	HLXU6009136	HLXU6009136	1	1	1				76	78
OOLU5787344	OOLU5787344	OOLU5787344	OOLU5787344	OOLU5787344	1	1	1				80	82
***********	HLXU6115204	HLXU6115204	RTXU3771520	HLXU6115204	1	0	1	1			80	82
HLXU4273520	HLXU4273520	HLXU4273520	HLXU4273520	HLXU4273520	1	1	1				84	86
HLXU6155552	HLXU6155552	HLXU6155552	HLXU6155552	HLXU6155552	1	1	1				84	86
HLXU4085733	HLXU4085733	HLXU4085733	HLXU4085733	HLXU4085733	1	1	1				89	91
HLXU4214722	HLXU4214722	HLXU4214722	HLXU4214722	HLKU4214722	1	1	0				89	91
HLXU4381946	HLXU4381946	HLXU4381946	HLXU4381946	HLXU4381946	1	1	1				94	96
HLXU4601085	HLXU4601085	HLXU4601085	HLXU4601085	HLXU6601085	1	1	0				94	96
HLXU4138690	HLXU4138690	HLXU4138690	HLXU4138690	HLXU4138690	1	1	1				100	102
HLCU41858*2	HLCU4185892	HLCU4185892	HLCU4185892	HLCU4185892	1	1	1	1			100	102
HLXU4017282	HLXU4017282	HLXU4017282	HLXU4017282	HLXU4017282	1	1	1				105	107

HLXU4485956	HLXU4485956	HLXU4485956	HLXU4485956	HLXU4485956	1	1	1				105	107
HLXU4268626	HLXU4268626	HLXU4268626	HLXU4268626	HLXU4268626	1	1	1				109	111
HLCU4630848	HLCU4630848	HLCU4630848	HLCU4630848	HLCU4630848	1	1	1				109	111
APMU2725308	APMU2725308	APMU2785307	APMU2785308	HLLU361332%	0	0	0				113	113
HLCU40764*9	HLCU4076459	HLCU4076459	HLCU4076417	HLCU4076459	1	0	1	1			113	115
HL*U36*1332	HL*U36*1332				0	0	0	1	1	1	114	115
HLXU6046696	HLXU6046696	HLXU6046696	HLXU6046696	LLXU6046696	1	1	0				116	118
HLCU4569331	HLCU4569331	HLCU4569331	HLCU4589321	HLCU4569331	1	0	1				116	118
HLXU46517**	HLXU4651***	HLXU4651???	HLXU46517%%	HLXU4651%%%	0	0	0	1	1	1	120	122
TRLU5752380	TRLU5752380	TRLU5752380	TRLU5752380	TRLU5752380	1	1	1				120	122
HLXU6005573	HLXU6005573	HLXU6005573	HLXU6005573	HLXU6005573	1	1	1				125	127
HLXU4362170	HLXU4362170	HLXU4362170	HLXU4362170	HLXU4362170	1	1	1				129	131
HLXU4561260	HLXU456126*	HLXU4561260	HLXU4561260	ILXU4561260	1	1	0		1		132	134
KNLU4279213	KNLU4279213	KNLU4279255	KNLU4279253	KNLU4279253	0	0	0				136	138
GLDU0911857	GLDU0911857	GLDU0911857	GLOU0911857	GLDU0911857	1	0	1				140	142

Nb of containers	60	Match Code ID	54		
Nb Of invalid	3	Match Code ID C1	39	Nb Of invalid C1	10
Nb Of Valid	57	Match Code ID C2	45	Nb Of invalid C2	11
Perfect match code	32				

	C1	C2	PoM	TOTAL
Accuracy	78,00%	91,84%	94,74%	90,00%

DTI Representative	Date
Port of Montreal Representative	Date
The Crown as represented by the Gov Of Canada	Date